

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 **Temperature transmitter TMT7x**
- 3 Manufacturer **Endress+Hauser Wetzler GmbH+Co. KG**
- 4 Address **Obere Wank 1,87484 Nesselwang,Germany**
- 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 60079-11:2012
- 10 The equipment shall be marked with the following:



 Refer to attached certificate EPS 18 ATEX 1 049 X, Revision 2 for specific marking of explosion protection symbols.

Refer to attached certificate EPS 18 ATEX 1 049 X, Revision 2 for marked code and ambient temperature range.

A.M.G

A. M. Good
Certification Officer



CML 21UKEX21009X
Issue 0

11 Description

For product description refer to attached certificate EPS 18 ATEX 1 049 X, Revision 2.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	18 Nov 2021	R14537Q/00	Issue of the prime certificate. EPS 18 ATEX 1 049 X, Revision 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

For conditions of manufacture, refer to attached certificate EPS 18 ATEX 1 049 X, Revision 2. Any routine tests/verifications required by the ATEX certification shall be conducted.

14 Specific Conditions of Use

For specific conditions of use, refer to attached certificate EPS 18 ATEX 1 049 X, Revision 2.

Certificate Annex

Certificate Number CML 21UKEX21009X
Equipment Temperature transmitter TMT7x
Manufacturer Endress+Hauser Wetzler GmbH+Co. KG



The following documents describe the equipment defined in this certificate:

Issue 0

For drawings describing the equipment, refer to attached certificate EPS 18 ATEX 1 049 X, Revision 2. In addition to the drawings listed on EPS 18 ATEX 1 049 X, Revision 2, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
10000012798	1 to 2	-	18 Nov 2021	Nameplate UKCA Transmitter units for Category 1 or 2

(1) **EU - Baumusterprüfbescheinigung**

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen –
Richtlinie 2014/34/EU

(3) EU - Baumusterprüfbescheinigungsnummer

EPS 18 ATEX 1 049 X

Revision 2

(4) Gerät: Temperaturtransmitter TMT7x

(5) Hersteller: Endress+Hauser GmbH + Co. KG

(6) Anschrift: Obere Wank 1
87484 Nesselwang
Germany

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser EU - Baumusterprüfbescheinigung festgelegt.

(8) Bureau Veritas Consumer Products Services Germany GmbH bescheinigt als benannte Stelle Nr. 2004 nach Artikel 21 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014 die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie. Die Ergebnisse der Prüfung sind in der vertraulichen Dokumentation unter der Referenznummer 17TH0425 festgelegt.

(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:

EN IEC 60079-0:2018

EN 60079-11:2012

(10) Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EU - Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 2014/34/EU. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:



II 1G Ex ia IIC T6...T4 Ga (Kopf)

II 2G Ex ia IIC T6...T4 Gb (Kopf)



II 2(1)G Ex ia [ia Ga] IIC T6...T4 Gb (Feldgerät)



II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb (DIN rail)

Zertifizierungsstelle Explosionsschutz

H. Schaffer

Hamburg, 17.08.2020

Seite 1 von 5

Bescheinigungen ohne Unterschrift und Siegel haben keine Gültigkeit. Diese Bescheinigung darf nur unverändert weiterverbreitet werden. Auszüge oder Änderungen bedürfen der Genehmigung von Bureau Veritas Consumer Products Services Germany GmbH. EPS 18 ATEX 1 049 X, Revision 2.

(13)

Anlage

(14) **EU - Baumusterprüfbescheinigung EPS 18 ATEX 1 049 X**

Revision 2

(15) Beschreibung des Gerätes:

Der Temperaturtransmitter iTEMP Typ TMT7x ist ein Zweileiter-Transmitter mit analogem Ausgang. Er überträgt gewandelte Signale von Widerstandsthermometern (RTD) in 2-, 3- oder 4-Leiter-Technik, Thermoelementen und Spannungsmessumformern. Die Konfiguration beim TMT72 wird über das HART Protokoll durchgeführt, beim TMT71 über PC Programmierung.

Das Gerät ist für den Einsatz im explosionsgefährdeten Bereich vorgesehen.

Beschreibung der Änderungen in Revision 1:

Zusätzliche Aufnahme der DIN rail Version und Anpassung an neusten Normenstand (EN IEC 60079- 0: 2018)

Beschreibung der Änderungen in Revision 2:

Kleine Änderung der EMV Schaltung im Head transmitter (Hinzufügen der Induktivität L102/ 27nH → unbedeutend für den Ex Schutz). Korrektur der Kennzeichnung der DIN rail Version von II 2(1)G Ex ia [ia Ga] IIC T6...T4 Gb auf II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb. Anpassung des Umgebungstemperaturbereiches der DIN rail Version. Die elektrischen Daten bleiben unverändert.

Elektrische Daten:

Kopftransmitter:

Versorgungsstromkreis

(Klemmen + und -)

U_i	$\leq$	30V DC
I_i	$\leq$	100 mA
P_i	=	800 mW
C_i	=	vernachlässigbar klein
L_i	=	vernachlässigbar klein

Sensorstromkreis

(Klemmen 3 bis 6)

U_o	$\leq$	4,3V DC
I_o	$\leq$	4,8 mA
P_o	$\leq$	5,2 mW

Zulässige Anschlusswerte

Ex ia IIC	$L_o = 50$ mH	$C_o = 3$ μ F
Ex ia IIB	$L_o = 100$ mH	$C_o = 18$ μ F
Ex ia IIA	$L_o = 100$ mH	$C_o = 48$ μ F



**BUREAU
VERITAS**



DIN rail:

Versorgungsstromkreis
(Klemmen + und -)

$U_i \leq 30V\ DC$
 $I_i \leq 100\ mA$
 $P_i = 700\ mW$
 $C_i = \text{vernachlässigbar klein}$
 $L_i = \text{vernachlässigbar klein}$

Sensorstromkreis
(Klemmen 3 bis 6)

$U_o \leq 4,3V\ DC$
 $I_o \leq 4,8\ mA$
 $P_o \leq 5,2\ mW$

Zulässige Anschlusswerte

Ex ia IIC	$L_o = 50\ mH$	$C_o = 3\ \mu F$
Ex ia IIB	$L_o = 100\ mH$	$C_o = 18\ \mu F$
Ex ia IIA	$L_o = 100\ mH$	$C_o = 48\ \mu F$

Displayschnittstelle
(CDI Anschluss)

$U_o \leq 4,3V\ DC$
 $I_o \leq 100\ mA$
 $C_i = \text{vernachlässigbar klein}$
 $L_i = \text{vernachlässigbar klein}$

Zulässige Anschlusswerte

Ex ia IIC	$L_o = 5,6\ mH$	$C_o = 1,7\ \mu F$
Ex ia IIB	$L_o = 28\ mH$	$C_o = 10\ \mu F$
Ex ia IIA	$L_o = 48\ mH$	$C_o = 33\ \mu F$

Zulässige Umgebungstemperatur:

Typ (Bestelloption)	Temperatur- klasse	Umgebungstemperatur Zone 1/ EPL Gb	Umgebungstemperatur Zone 0/ EPL Ga
TMT7x-xxx1xxxx Kopftransmitter ohne Display	T6	$-50^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
	T5	$-50^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
	T4	$-50^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
TMT7x-xxx1xxxx Kopftransmitter mit Display (TID10)	T6	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	
	T5	$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	
	T4	$-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	
TMT7x-xxx1xxxx Feldgerät ohne Display	T6	$-50^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	
	T5	$-50^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	
	T4	$-50^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	
TMT7x-xxx1xxxx Feldgerät mit Display	T6	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	
	T5	$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	
	T4	$-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	
TMT7x-xxx2xxxxxxxxxx	T6	$-50^{\circ}\text{C} \leq T_a \leq +43^{\circ}\text{C}$	
TMT7x-xxx3xxxxxxxxxx	T5	$-50^{\circ}\text{C} \leq T_a \leq +58^{\circ}\text{C}$	
(DIN rail transmitter)	T4	$-50^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	

(16) Referenznummer: 17TH0425

(17) Besondere Bedingungen:

In explosionsgefährdeter Umgebung darf das CDI Interface nicht genutzt werden. Der Kopfrtransmitter und der DIN rail transmitter müssen gegen elektrostatisches Laden und Entladen geschützt werden.

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen:

Durch Übereinstimmung mit Normen abgedeckt.



Zertifizierungsstelle Explosionsschutz

H. Schaffer

Hamburg, 17.08.2020

EU - Type Examination Certificate

(1)

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

EPS 18 ATEX 1 049 X

Revision 2

(4) Equipment: Temperature transmitter TMT7x

(5) Manufacturer: Endress+Hauser GmbH + Co. KG

(6) Address: Obere Wank 1, 87484 Nesselwang, Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment 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 of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 17TH0425.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and examination of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.

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



II 1G Ex ia IIC T6...T4 Ga (Head)

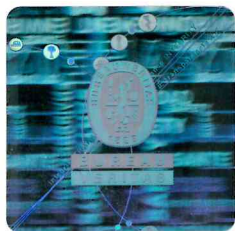
II 2G Ex ia IIC T6...T4 Gb (Head)



II 2(1)G Ex ia [ia Ga] IIC T6...T4 Gb (Field)



II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb (DIN rail)



Certification department of explosion protection

Hamburg, 2020-08-17

(13)

Annex

(14) EU - Type Examination Certificate EPS 18 ATEX 1 049 X

Revision 2

(15) Description of equipment:

The temperature transmitter iTEMP type TMT7x, is a two wire transmitter with analogue output. It has measuring input circuits for resistance thermometers (RTD) in 2-, 3- or 4-wire connection, thermocouples and voltage transmitters. Setting up is done using the HART-Protocol for TMT72 or PC programming for TMT71. The equipment is intended for the application inside the explosion hazardous areas.

Description of modification Revision 1:

Additionally inclusion of DIN rail version and adaption at newest Standard (EN IEC 60079- 0: 2018)

Description of modification Revision 2:

Tiny modification of EMC circuit in head transmitter (Additionally inductance L102/ 27nH → irrelevant for Ex protection). Correction of Ex marking for DIN rail version from II 2(1)G Ex ia [ia Ga] IIC T6...T4 Gb to II 2(1)G Ex ib [ia Ga] IIC T6...T4 Gb. Adjustment of ambient temperature for Din rail version. Electrical data remain unchanged.

Electrical data:

Head transmitter:

Power supply

(terminals + and -)

Ui	≤	30V DC
Ii	≤	100 mA
Pi	=	800 mW
Ci	=	negligibly small
Li	=	negligibly small

Sensor circuit

(terminal 3 to 6)

Uo	≤	4.3V DC
Io	≤	4.8 mA
Po	≤	5.2 mW

Max. connection values

Ex ia IIC	Lo = 50 mH	Co = 3 µF
Ex ia IIB	Lo = 100 mH	Co = 18 µF
Ex ia IIA	Lo = 100 mH	Co = 48 µF



**BUREAU
VERITAS**



DIN rail:

Power supply
(terminals + and -)

$U_i \leq 30\text{V DC}$
 $I_i \leq 100\text{ mA}$
 $P_i = 700\text{ mW}$
 $C_i = \text{negligibly small}$
 $L_i = \text{negligibly small}$

Sensor circuit
(terminal 3 to 6)

$U_o \leq 4.3\text{V DC}$
 $I_o \leq 4.8\text{ mA}$
 $P_o \leq 5.2\text{ mW}$

Max. connection values

Ex ia IIC	$L_o = 50\text{ mH}$	$C_o = 3\text{ }\mu\text{F}$
Ex ia IIB	$L_o = 100\text{ mH}$	$C_o = 18\text{ }\mu\text{F}$
Ex ia IIA	$L_o = 100\text{ mH}$	$C_o = 48\text{ }\mu\text{F}$

Display interface
(CDI connection)

$U_o \leq 4.3\text{V DC}$
 $I_o \leq 100\text{ mA}$
 $C_i = \text{negligibly small}$
 $L_i = \text{negligibly small}$

Max. connection values

Ex ia IIC	$L_o = 5.6\text{ mH}$	$C_o = 1.7\text{ }\mu\text{F}$
Ex ia IIB	$L_o = 28\text{ mH}$	$C_o = 10\text{ }\mu\text{F}$
Ex ia IIA	$L_o = 48\text{ mH}$	$C_o = 33\text{ }\mu\text{F}$

Ambient temperature range:

Type (order option)	Temperature class	Ambient temperature Zone 1/ EPL Gb	Ambient temperature Zone 0/ EPL Ga
TMT7x-xxx1xxxx Headtransmitter without display	T6	$-50^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
	T5	$-50^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
	T4	$-50^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	$-50^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$
TMT7x-xxx1xxxx Headtransmitter with display (TID10)	T6	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	
	T5	$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	
	T4	$-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	
TMT7x-xxx1xxxx Field housing without display	T6	$-50^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	
	T5	$-50^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	
	T4	$-50^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	
TMT7x-xxx1xxxx Field housing with display	T6	$-40^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$	
	T5	$-40^{\circ}\text{C} \leq T_a \leq +70^{\circ}\text{C}$	
	T4	$-40^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	
TMT7x-xxx2xxxxxxxxxx TMT7x-xxx3xxxxxxxxxx (DIN rail transmitter)	T6	$-50^{\circ}\text{C} \leq T_a \leq +43^{\circ}\text{C}$	
	T5	$-50^{\circ}\text{C} \leq T_a \leq +58^{\circ}\text{C}$	
	T4	$-50^{\circ}\text{C} \leq T_a \leq +85^{\circ}\text{C}$	



(16) Reference number: 17TH0425

(17) Special conditions for safe use:

In hazardous areas it is not permitted to use the CDI interface of TMT7x for configuration. The head transmitter and the DIN rail transmitter must be protected against electrostatic charge/ discharge.

(18) Essential health and safety requirements:

Met by compliance with standards.



Certification department of explosion protection

Hamburg, 2020-08-17