UK Type Examination Certificate CML 21UKEX21007X 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 **Temperature transmitter iTEMP type TMT162-xxxxxxxxxxxxxxx75xx, Temperature Field Transmitter iTEMP, type TMT142**

3 Manufacturer **Endress+Hauser Wetzer 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 17 ATEX 1 131 X, Revision 2 for specific marking of explosion protection symbols.

Refer to attached certificate EPS 17 ATEX 1 131 X, Revision 2 for marked code and ambient temperature range.

Ben Trafford
Certification Officer

11 Description

For product description refer to attached certificate EPS 17 ATEX 1 131 X, Revision 2.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	16 Nov 2021	R14537O/00	Issue of the prime certificate. EPS 17 ATEX 1 131 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 17 ATEX 1 131 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 17 ATEX 1 131 X, Revision 2.

Certificate Annex

Certificate Number	**CML 21UKEX21007X**
Equipment	**Temperature transmitter iTEMP type TMT162-xxxxxxxxxxxxxx75xx, Temperature Field Transmitter iTEMP, type TMT142**
Manufacturer	**Endress+Hauser Wetzer 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 17 ATEX 1 131 X.In addition to the drawings listed on EPS 17 ATEX 1 131 X, the following drawings include the additional marking required for this UK Type Examination certification:

Drawing No	Sheets	Rev	Approved date	Title
10000012709	1 to 2	-	16 Nov 2021	Nameplate UKCA Transmitter units for Category 1 or 2

(1) # EU - Type Examination Certificate

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

(3) EU - Type Examination Certificate Number

EPS 17 ATEX 1 131 X **Revision 2**

(4) Equipment: Temperature transmitter iTEMP type TMT162-xxxxxxxxxxxxxx75xx,
Temperature Field Transmitter iTEMP, type TMT142

(5) Manufacturer: Endress+Hauser Wetzer 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 17TH0239.

(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

II 2D Ex ia IIIC T85°C ...T110°C Db

Certification department of explosion protection

Hamburg, 2020-04-21

H. Schaffer

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(13) # Annex

(14) **EU - Type Examination Certificate EPS 17 ATEX 1 131 X** **Revision 2**

(15) Description of equipment:

Temperature Transmitters iTEMP Type TMT162-xxxxxxxxxxxxxxx75xx consists of an enclosure, made of aluminium or stainless steel, containing electronic circuits, terminals and optionally a display. The transmitter is used to convert the measurement signal of an external or an integral assembled temperature sensor into an output signal.

Temperature Transmitters iTEMP Type TMT142 consist of an enclosure, made of aluminium or stainless steel, containing electronic circuits, terminals and optionally a display. The transmitter is used to convert the measurement signal of an externat or an integral assembled temperature sensor into an output signal.

The transmitter provides a 4-20 mA current output signal with HART communication.

The equipment is intended for the application inside the explosion hazardous area.

Description of equipment modification:

Adaptation of the certificate to the current set of standards.

Adding another field transmitter iTEMP, type TMT142, with HART7 electronic.

Electrical data:

Type TMT162-xxxxxxxxxxxxxxx75xx:

Power supply			
(Terminals + and -)	Ui	≤	30V DC
	Ii	≤	300 mA
	Pi	=	1000 mW
	Ci	=	5 nF
	Li	=	negligible
Sensor circuit			
(Terminals 1 to 6)	Uo	≤	7.6V DC
	Io	≤	13 mA
	Po	≤	24.7 mW

Max. connection values		
Single values:		
Ex ia IIC	Lo = 40 mH	Co = 10.4 µF
Ex ia IIB/ IIIC	Lo = 150 mH	Co = 160 µF
Ex ia IIA	Lo = 300 mH	Co = 1000 µF
Combined values:		
Ex ia IIC	Lo = 10 mH and	Co = 1.1 µF
Ex ia IIB/ IIIC	Lo = 50 mH and	Co = 6.1 µF
Ex ia IIA	Lo = 100 mH and	Co = 15 µF

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The temperature class and the maximum surface temperature of the enclosure, applicable to a maximum dust layer thickness of 5 mm, are depending on the ambient temperature range, as listed in the following tables:

Type (order option)	Temperature class	Ambient temperature EPL Gb	Ambient temperature EPL Ga
TMT162-x1xxxxxxxxxxxx75xx TMT162-x2xxxxxxxxxxxx75xx	T6	-50°C ≤ Ta ≤ +55°C	-50°C ≤ Ta ≤ +40°C
TMT162-x3xxxxxxxxxxxx75xx TMT162-x4xxxxxxxxxxxx75xx	T5	-50°C ≤ Ta ≤ +70°C	-50°C ≤ Ta ≤ +50°C
TMT162-x5xxxxxxxxxxxx75xx TMT162-x6xxxxxxxxxxxx75xx	T4	-50°C ≤ Ta ≤ +85°C	-50°C ≤ Ta ≤ +60°C

Type (order option)	Max surface temperature	Ambient temperature EPL Db
TMT162-x1xxxxxxxxxxxx75xx	T85°C	-40°C ≤ Ta ≤ +55°C
TMT162-x2xxxxxxxxxxxx75xx	T100°C	-40°C ≤ Ta ≤ +70°C
TMT162-x3xxxxxxxxxxxx75xx TMT162-x4xxxxxxxxxxxx75xx	T110°C	-40°C ≤ Ta ≤ +85°C

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Type TMT142:

Power supply			
(Terminals + and -)	Ui	≤	30V DC
	Ii	≤	300 mA
	Pi	=	1000 mW
	Ci	=	5 nF
	Li	=	negligible
Sensor circuit			
(Terminals 1 to 6)	Uo	≤	4.3V DC
	Io	≤	4.8 mA
	Po	≤	5.2 mW

Max. connection values

Single values:		
Ex ia IIC	Lo = 40 mH	Co = 10.4 µF
Ex ia IIB/ IIIC	Lo = 150 mH	Co = 160 µF
Ex ia IIA	Lo = 300 mH	Co = 1000 µF

Combined values:		
Ex ia IIC	Lo = 50 mH and	Co = 3.0 µF
Ex ia IIB/ IIIC	Lo = 100 mH and	Co = 18 µF
Ex ia IIA	Lo = 100 mH and	Co = 48 µF

The temperature class and the maximum surface temperature of the enclosure, applicable to a maximum dust layer thickness of 5 mm, are depending on the ambient temperature range, as listed in the following tables:

Type (order option)	**Temperature class**	**Ambient temperature EPL Gb**	**Ambient temperature EPL Ga**
TMT142	T6	-50°C ≤ Ta ≤ +55°C	-50°C ≤ Ta ≤ +40°C
TMT142	T5	-50°C ≤ Ta ≤ +70°C	-50°C ≤ Ta ≤ +50°C
TMT142	T4	-50°C ≤ Ta ≤ +85°C	-50°C ≤ Ta ≤ +60°C

Type (order option)	**Max surface temperature**	**Ambient temperature EPL Db**
TMT142	T85°C	-40°C ≤ Ta ≤ +55°C
TMT142	T100°C	-40°C ≤ Ta ≤ +70°C
TMT142	T110°C	-40°C ≤ Ta ≤ +85°C

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(16) Reference number: 17TH0301

(17) Special conditions for safe use:

When the enclosure of the Temperature Transmitter iTEMP Type TMT162 or TMT142 is made of aluminum, if it is mounted in an area where the use of EPL Ga apparatus is required, it must be installed such, that, even in the event of rare incidents, ignition sources due to impact and friction sparks are excluded.

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Hamburg, 2020-04-21

H. Schaffer

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(1) # EU - Baumusterprüfbescheinigung

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

(3) EU - Baumusterprüfbescheinigungsnummer

EPS 17 ATEX 1 131 X **Revision 2**

(4) Gerät: Temperaturtransmitter iTEMP Typ TMT162-xxxxxxxxxxxxxxx75xx,
Temperature Field Transmitter iTEMP, Typ TMT142

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

(6) Anschrift: Obere Wank 1
87484 Nesselwang
Deutschland

(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 17TH0301 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

II 2D Ex ia IIIC T85°C ...T110°C Db

Zertifizierungsstelle Explosionsschutz

H. Schaffer

Hamburg, 21.04.2020

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(13) # Anlage

(14) **EU - Baumusterprüfbescheinigung EPS 17 ATEX 1 131 X** **Revision 2**

(15) Beschreibung des Gerätes:

Der Temperaturtransmitter iTEMP Typ TMT162-xxxxxxxxxxxxxxx75xx besteht aus einem Gehäuse, welches entweder aus Aluminium oder Edelstahl besteht. Es beinhaltet elektronische Schaltkreise, Klemmen und ein optionales Display. Der Transmitter wird dazu verwendet Messsignale eines internen montierten oder externen Temperatur Sensors in ein Ausgangssignal umzuwandeln.

Der Temperaturtransmitter iTEMP Typ TMT142 besteht aus einem Gehäuse aus Aluminium oder Edelstahl, das elektronische Schaltkreise, Klemmen und optional ein Display enthält. Der Messumformer wird zur Umwandlung des Messsignals eines externen oder eines integrierten montierten Temperatursensors in ein Ausgangssignal verwendet.

Der Transmitter liefert ein 4-20mA Stromausgangssignal mit HART Kommunikation.

Das Gerät ist für den Einsatz im explosionsgefährdeten Bereich vorgesehen.

Beschreibung der Änderung des Gerätes:

Anpassen des Zertifikates an aktuellen Normensatz.

Hinzufügen eines weiteren Temperaturtransmitters iTEMP Typ TMT142.

Elektrische Daten:

Typ TMT162-xxxxxxxxxxxxxxx75xx:

Versorgungsstromkreis			
(Klemmen: + und -)	Ui	≤	30V DC
	Ii	≤	300 mA
	Pi	=	1000 mW
	Ci	=	5 nF
	Li	=	vernachlässigbar klein
Sensorstromkreis			
(Klemmen: 1 bis 6)	Uo	≤	7,6V DC
	Io	≤	13 mA
	Po	≤	24,7 mW

Zulässige Anschlusswerte		
Einzelwerte:		
Ex ia IIC	Lo = 40 mH	Co = 10,4 µF
Ex ia IIB/IIIC	Lo = 150 mH	Co = 160 µF
Ex ia IIA	Lo = 300 mH	Co = 1000 µF
Kombinierte Werte:		
Ex ia IIC	Lo = 10 mH und	Co = 1,1 uF
Ex ia IIB/IIIC	Lo = 50 mH und	Co = 6,1 µF
Ex ia IIA	Lo =100mH und	Co = 15 µF

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Die Temperaturklasse und die maximale Oberflächentemperatur des Gehäuses, geeignet für eine maximale Staubschichtdicke von 5mm, hängen von dem Umgebungstemperaturbereich ab, wie in den folgenden Tabellen aufgeführt:

Typ (Schlüssel)	**Temperatur Klasse**	**Umgebungstemperatur** **EPL Gb**	**Umgebungstemperatur** **EPL Ga**
TMT162-x1xxxxxxxxxxxx75xx TMT162-x2xxxxxxxxxxxx75xx	T6	-50°C ≤ Ta ≤ +55°C	-50°C ≤ Ta ≤ +40°C
TMT162-x3xxxxxxxxxxxx75xx TMT162-x4xxxxxxxxxxxx75xx	T5	-50°C ≤ Ta ≤ +70°C	-50°C ≤ Ta ≤ +50°C
TMT162-x5xxxxxxxxxxxx75xx TMT162-x6xxxxxxxxxxxx75xx	T4	-50°C ≤ Ta ≤ +85°C	-50°C ≤ Ta ≤ +60°C

Typ (Schlüssel)	**Maximale Oberflächentemperatur**	**Umgebungstemperatur** **EPL Db**
TMT162-x1xxxxxxxxxxxx75xx	T85°C	-40°C ≤ Ta ≤ +55°C
TMT162-x2xxxxxxxxxxxx75xx	T100°C	-40°C ≤ Ta ≤ +70°C
TMT162-x3xxxxxxxxxxxx75xx	T110°C	-40°C ≤ Ta ≤ +85°C
TMT162-x4xxxxxxxxxxxx75xx		

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Typ TMT142:

Versorgungsstromkreis			
(Klemmen: + und -)	Ui	≤	30V DC
	Ii	≤	300 mA
	Pi	=	1000 mW
	Ci	=	5 nF
	Li	=	vernachlässigbar klein
Sensorstromkreis			
(Klemmen: KL 1 – KL 4)	Uo	≤	4,3V DC
	Io	≤	4,8 mA
	Po	≤	5,2 mW

Zulässige Anschlusswerte

Einzelwerte:		
Ex ia IIC	Lo = 40 mH	Co = 10,4 µF
Ex ia IIB/IIIC	Lo = 150 mH	Co = 160 µF
Ex ia IIA	Lo = 300 mH	Co = 1000 µF

Kombinierte Werte:

Ex ia IIC	Lo = 50 mH und	Co = 3,0 uF
Ex ia IIB/IIIC	Lo = 100 mH und	Co = 18 µF
Ex ia IIA	Lo = 100 mH und	Co = 48 µF

Die Temperaturklasse und die maximale Oberflächentemperatur des Gehäuses, geeignet für eine maximale Staubschichtdicke von 5mm, hängen von dem Umgebungstemperaturbereich ab, wie in den folgenden Tabellen aufgeführt:

Typ (Schlüssel)	**Temperatur Klasse**	**Umgebungstemperatur EPL Gb**	**Umgebungstemperatur EPL Ga**
TMT142	T6	-50°C ≤ Ta ≤ +55°C	-50°C ≤ Ta ≤ +40°C
TMT142	T5	-50°C ≤ Ta ≤ +70°C	-50°C ≤ Ta ≤ +50°C
TMT142	T4	-50°C ≤ Ta ≤ +85°C	-50°C ≤ Ta ≤ +60°C

Typ (Schlüssel)	**Maximale Oberflächentemperatur**	**Umgebungstemperatur EPL Db**
TMT142	T85°C	-40°C ≤ Ta ≤ +55°C
TMT142	T100°C	-40°C ≤ Ta ≤ +70°C
TMT142	T110°C	-40°C ≤ Ta ≤ +85°C

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(16) Referenznummer: 17TH0301

(17) Besondere Bedingungen:

Wenn das Gehäuse des Temperaturtransmitters iTEMP Typ TMT162 oder des iTEMP Typ TMT142 aus Aluminium ist und in einen Bereich eingebaut wird, der den Gebrauch eines Geräts für EPL Ga voraussetzt, muss es so errichtet werden, dass auch in selten auftretenden Fällen eine Zündquelle durch Stoß oder Reibung zwischen Metall/Stahl und dem Gehäuse ausgeschlossen ist.

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen:

Durch Übereinstimmung mit Normen abgedeckt.

Zertifizierungsstelle Explosionsschutz

Hamburg, 21.04.2020

H. Schaffer

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