CERTIFICATE

(1) EU-Type Examination

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

(3) EU-Type Examination Certificate Number: **KEMA 02ATEX2338X**   Issue Number: **7**

(4) Product: **Temperature Transmitter, Type iTEMP TMT142 and Type iTEMP TMT162**

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

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

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

(8) DEKRA Certification B.V., Notified Body number 0344 in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number NL/KEM/ExTR09.0074/03.

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

EN IEC 60079-0:2018   **EN 60079-1:2014**   **EN 60079-31:2014**

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

II 2 G   Ex db IIC T6…T4 Gb
II 2 D   Ex tb IIIC T110 °C Db

Date of certification: 31 January 2020

DEKRA Certification B.V.

L.G. van Schie
Certification Manager

SCHEDULE

to EU-Type Examination Certificate KEMA 02ATEX2338X   Issue No. **7**

(15)   **Description**

The Temperature Transmitters, Type iTEMP TMT142 and Type iTEMP TMT162 consist of an enclosure, made of aluminium or stainless steel, containing electronics circuits, terminals and optionally a display. The transmitters are used to convert the measurement signal of an external temperature sensor into an output signal.

Depending the version, the transmitter provides a 4 – 20 mA current output signal with HART communication or is connected to a Profibus PA or Foundation Fieldbus.

The ambient temperature range, depending on transmitter version and temperature class or temperature code, is listed in the following table:

Transmitter version	Temperature class Temperature code	Ambient temperature range
in type of protection flameproof enclosures Ex db IIC	T6	-40 °C to +55 °C
	T5	-40 °C to +70 °C
	T4	-40 °C to +80 °C
in type of protection dust ignition protection by enclosure Ex tb IIIC	T110 °C	-40 °C to +80 °C

The enclosure of the transmitter provides a degree of protection IP66/IP67 in accordance with EN 60529.

Electrical data

Unit	TMT162-, TMT142-	TMT162-	TMT162-, TMT142-	TMT142B-
Communication	HART 5	HART 7	FF/PA	HART 7
Voltage	8…40 Vdc	11.5…40 Vdc	9…35 Vdc	11…36 Vdc
Output signal	4-20 mA	4-20 mA	FF/PA	4-20 mA
Current consumption	23 mA	23 mA	11 mA	23 mA
Power dissipation	Maximum 3 W	1 W	Maximum 3 W	1 W

Nomenclature

See Annex 1 to Report No. NL/KEM/ExTR09.0074/03.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16)   **Report Number**

No. NL/KEM/ExTR09.0074/03.

(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate KEMA 02ATEX2338X**   Issue No. **7**

(17) **Specific conditions of use**

- The flameproof joints are not intended to be repaired.
- When the optional non-conductive coating is applied the risk from electrostatic discharge shall be minimized.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. No. NL/KEM/ExTR09.0074/03.

(20) **Certificate history**

Issue 1	200683500	Initial issue for Type iTemp TMT162 flameproof and dust.
Amend. 1	201823200	Intrinsically safe types introduced.
Amend. 2	202917500	Ambient temperature ranges changed.
Amend. 3	203147200	Stainless steel types introduced.
Amend. 4	207756500	Type iTemp TMT142 introduced.
Issue 2	208671600	Intrinsically safe fieldbus and alternative enclosure (T17) introduced.
Issue 3	212381700	Alternative main board circuit for the temperature transmitter Type iTEMP TMT162 PA (fieldbus system) introduced.
Issue 4	213124400	Ambient temperature range changed, depending on transmitter version/temperature class.
Issue 5	214657800	Assessment per latest editions of the standards. Small modifications to the construction not affecting the type of protection.
Issue 6	219410100	Assessed per EN 60079-0:2012 + A11, EN 60079-1:2014 and EN 60079-31:2014. Moved type of protection Ex ia from this certificate to certificate DEKRA 17ATEX0048X. Optional coating introduced. Minor constructional changes applied.
Issue 7	224124400	Assessment per EN 60079-0:2018. Addition of an electronic module with Bluetooth communication option. Addition of an optional Surge protector.

Nomenclature

Series No.   Suffix Code
TMT162-   abc***g*i*k**m**

TMT162-	**a**	**b**	**c**	*****	*****	*****	**g**	*****	**i**	*****	**k**	*****	*****	**m**	*****	*****
Designation	010	020	030	040	050	060	070	080	090	590	610	670	850	895		

Desig-nation	Explanation	Value	Explanation
010	Approval	E	ATEX II2G Ex db
		H	ATEX Ex db, Ex ia (DEKRA 17ATEX0048 X) **
		N	ATEX/ IECEx Ex tb
		R	IECEx Ex db
		S	IECEx Ex db, Ex ia (IECEx KEM 06.0038X) **
020	Housing	1	Aluminium, without display
		2	Aluminium with display, illumination
		3	316L, without display
		4	316L with display, illumination
		9	Combination of 1 to 4 + Non-conductive varnish
030	Cable entry openings (cable entry devices are not in the scope)	1	2x thread NPT1/2
		2	2x thread M20x1.5
		4	2x thread G1/2 (except Ex d type)
		5	1x thread M24x1.5 + 1x M20x1.5
040	Mounting bracket	n.s. *	Not relevant for Explosion Safety
050	Configuration connection	n.s. *	Not relevant for Explosion Safety
060	Configuration sensor type	n.s. *	Not relevant for Explosion Safety
070	Communication; Configuration:	A	HART; Factory setup Pt100 3- wire, 0-100°C, NAMUR NE43
		B	HART; Measuring range, NAMUR NE43
		C	HART; TC configuration range, NAMUR NE43
		D	HART; RTD configuration range, NAMUR NE43
		E	PROFIBUS PA
		F	PROFIBUS PA; Factory setup
		K	FOUNDATION Fieldbus; Factory setup
		L	FOUNDATION Fieldbus
080	Additional option	n.s. *	Not relevant for Explosion Safety
090	Sensor	A	1x input, HART
		B	2x input, PV = sensor 1, Ch.2: off
		C	2x input, PV = difference
		D	2x input, PV = average
		E	2x input, sensor back up
590	Additional approval	n.s. *	Not relevant for Explosion Safety
610	Accessory mounted	NA	Integrated overvoltage protection
670	Customer specific modifications	n.s. *	Not relevant for Explosion Safety

Desig-nation	Explanation	Value	Explanation
850	Firmware version	74	01.03.zz HART 5, DevRev02, without SIL
		75	04.01.zz, HART 7, DevRev04
		76	02.00.zz, FF, DevRev03
		77	01.03.zz HART 5, DevRev02, SIL
		78	01.01.zz PROFIBUS PA, Profile 3.02
895	Marking	n.s. *	Not relevant for Explosion Safety

Series No. Suffix Code
TMT142- abc****j****

TMT142-	**a**	**b**	**c**	*****	*****	*****	*****	*****	*****	**j**	*****	*****
Designation	010	020	030	040	050	060	070	080	090	100	990	995

Design-ation	Explanation	Value	Explanation
010	Approval	E	ATEX II2G Ex db
		N	ATEX/ IECEx Ex tb
		R	IECEx Ex db
		S	IECEx Ex db, Ex ia (IECEx KEM 06.0038X)**
020	Housing	1	Aluminium, without display
		2	Aluminium with display
		3	316L, without display
		4	316L with display
		9	Combination of 1 to 4 + Non-conductive varnish
030	Cable entry openings (cable entry devices are not in the scope)	1	3x thread NPT1/2
		2	3x thread M20x1.5
		4	3x thread G 1/2 (excluded for Ex d)
		5	1x thread M24x1.5 + 2x M20x1.5
040	Mounting bracket	n.s. *	Not relevant for Explosion Safety
050	Configuration connection	n.s. *	Not relevant for Explosion Safety
060	Configuration sensor type	n.s. *	Not relevant for Explosion Safety
070	Configuration:	n.s. *	Not relevant for Explosion Safety
080	Additional Option:	n.s. *	Not relevant for Explosion Safety
090	Sensor input	n.s. *	Not relevant for Explosion Safety
100	Versions	1	Standard
990	Customer Specific Modifications	n.s. *	Not relevant for Explosion Safety
995	Marking	n.s. *	Not relevant for Explosion Safety

* n.s. mean value is not related to Explosion Safety.
** Type of protection Ex i is in the scope of DEKRA 17ATEX0048X and IECEx KEM 06.0038X.

Series No.   Suffix Code
TMT142B- abc******j***m**

TMT142B-	**a**	**b**	**c**	*****	*****	*****	*****	*****	*****	**j**	*****	*****	**m**	*****	*****
Designation	010	020	030	040	480	510	520	570	610	620	630	850	895		

Design ation	Explanation	Value	Explanation
010	Approval	B6	ATEX II2G Ex db IIC T6 Gb, II2D Ex tb IIIC Db
		I6	IECEx Ex db T6 Gb, Ex tb IIIC Db
		8F	ATEX IECEx II2D Ex tb IIIC Db
		86	ATEX IECEx II2G Ex db IIC T6 Gb, II2D Ex tb IIIC Db
020	Communication; Output Signal; Operation	A	HART; 4-20mA; HART configuration
		P	HART; 4-20mA; HART/Bluetooth (App) configuration
030	Housing	1	Aluminium, without display
		2	Aluminium with display
		3	316L, without display
		4	316L with display
		9	Combination of 1 to 4 + Non-conductive varnish
040	Cable entry openings	1	3x thread NPT1/2
		2	3x thread M20x1.5
		4	3x thread G 1/2 (excluded for Ex d)
		5	1x thread M24x1.5 + 2x M20x1.5
480	Device Model	n.s. *	Not relevant for Explosion Safety
510	Universal Input	n.s. *	Not relevant for Explosion Safety
	Sensor Type	n.s. *	Not relevant for Explosion Safety
520	Calibration	n.s. *	Not relevant for Explosion Safety
570	Service	n.s. *	Not relevant for Explosion Safety
610	Accessory Mounted	NA	Integrated overvoltage protection
620	Accessory Enclosed	n.s. *	Not relevant for Explosion Safety
630	Cable Gland; Temp. Range; Protect. Type		Not in the scope of certification
850	Firmware Version	78	1.00.zz, HART 7
895	Marking	n.s. *	Not relevant for Explosion Safety

* n.s. mean value is not related to Explosion Safety.