[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres - Directive 2014/34/EU – Annex III**

MODULE B: EU-TYPE EXAMINATION

[3] EU-type Examination Certificate number: **IMQ 24 ATEX 075 X**

[4] PRODUCT: **Modular multipoint temperature measurement device**

TYPE/SERIES: **iTherm MultiSens Flex TMS01**

[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 documents therein referred to.

[8] IMQ, notified body N° 0051, 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 equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in Report No.: **AT24-0099871-01**

[9] Compliance with Essential Health and Safety Requirements, except in respect of those listed at item 18 of the annex, has been assured by compliance with:

EN IEC 60079-0:2018; EN 60079-1:2014; EN 60079-11:2012; EN 60079-26: 2015; EN 60079-31:2014

Other reference standards: EN IEC 60079-31:2024

[10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to specific conditions for safe 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 equipment or protective system shall include the following:

II 1G Ex ia IIC T6...T1 Ga
II 1/2G Ex ia IIC T6...T1 Ga/Gb
II 1/2G Ex db IIC T6...T1 Ga/Gb
II 1/2G Ex ia/db IIC T6...T1 Ga/Gb
II 1/2D Ex ia IIIC T85°C...T450°C Da/Db
II 1/2D Ex ia IIIC T85°C…T450°C Da/Db
II 1/2D Ex ta/tb IIIC T85°C...T450°C Da/Db
II 1/2D Ex ia/tb IIIC T85°C...T450°C Da/Db

THIS CERTIFICATE CANCELS AND REPLACES THE PREVIOUS ONE. IT INCLUDES 1 ANNEX.

FIRST ISSUE	2024/12/13
CURRENT ISSUE	2024/12/13
PREVIOUS ISSUE	---
EXPIRING DATE	2034/12/12

B.U. PRODUCT
CERTIFICATION SECTOR - MANAGER

[13] # Annex

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[15] **Description of product:**

ITherm MultiSens Flex TMS01 is multipoint temperature assembly designed to measures the temperature profile inside the process environment by means of many sensors, jointed to a suitable process connection which ensures the right tightness levels.

It is configurable with or without thermowells.

It available with up to 48 thermocouples (TC type K, J, N, T, E, S, R, U, B, G, C, D or any kind of known deviations single, double or triple type) and/or RTDs.

Each single element is made by connecting a thermocouple/RTD based on MgO cable with a flexible thermocouple's/RTD's extension cable.

TMS01 is generally is assembled with an additional enclosure (like junction box that can accommodate additional instruments like temperature transmitters) or as a standalone solution: in this case a flexible conduit leads the cables either to a remote junction box or to safe area.

Category 1GD is applicable for the part of the MultiSens Flex TMS01 continuously immersed in process medium and exposed to process operation conditions. Parts in Zone 0 and Zone 20 are: the bundle of thermocouple/RTD together with either protective individual thermowells or main thermowell and part of the process of connection.

Category 2GD is applicable for the part of the MultiSens Flex TMS01 not immersed in process medium and exposed only to environment operation conditions. This part consists mainly of the external part including junction box and its fittings, frame/tube neck, extension cables of inserts and compression fittings.

The separation between the two classified zones is realized by process connection which comply to IEC EN 60079-26 requirements.

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[15.1] **Models/Series Identification:**

See the following option list:

TMS01 - 010 020 030 040 050 060 070 080 090 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 | 510 520 570 580 590 600 610 630 640 650 660 850 895

010	Approval:	BI	ATEX II1/2D Ex ta/tb IIIC T85°C...T450°C Da/Db
		BA	ATEX II1G Ex ia IIC T6...T1 Ga
		BJ	ATEX II1/2G Ex ia IIC T6...T1 Ga/Gb II1/2D Ex ia IIIC T85°C…T450°C Da/Db
		B7	ATEX II1/2G Ex db IIC T6...T1 Ga/Gb II1/2D Ex ta/tb IIIC T85°C...T450°C Da/Db
		B4	ATEX II1/2G Ex ia/db IIC T6...T1 Ga/Gb II1/2D Ex ia/tb IIIC T85°C...T450°C Da/Db
		II	IECEx Ex ta/tb IIIC T85°C...T450°C Da/Db
		IA	IECEx Ex ia IIC T6...T1 Ga
		IB	IECEx Ex ia IIC T6...T1 Ga/Gb Ex ia IIIC T85°C…T450°C Da/Db
		ID	IECEx Ex db IIC T6...T1 Ga/Gb Ex ta/tb IIIC T85°C...T450°C Da/Db
		IE	IECEx Ex ia/db IIC T6...T1 Ga/Gb Ex ia/tb IIIC T85°C...T450°C Da/Db
		8F	ATEX IECEx II1/2D Ex ta/tb IIIC T85°C...T450°C Da/Db
		8A	ATEX IECEx II1G Ex ia IIC T6...T1 Ga
		8J	ATEX IECEx II1/2G Ex ia IIC T6...T1 Ga/Gb II1/2D Ex ia IIIC T85°C…T450°C Da/Db
		86	ATEX IECEx II1/2G Ex db IIC T6...T1 Ga/Gb II1/2D Ex ta/tb IIIC T85°C...T450°C Da/Db
		84	ATEX IECEx II1/2G Ex ia/db IIC T6...T1 Ga/Gb II1/2D Ex ia/tb IIIC T85°C...T450°C Da/Db
020	Insert Design	A	Replaceable (during shutdown)
		B	Not replaceable
		C	..... ProfileSens replaceable (during shutdown)
		D	..... ProfileSens not replaceable
030	Installation Design; Meas. Point Distr.:	A	In existing thermowell; equally distributed
		B	Direct contact; equally distributed
		C	Individual thermowells; equally distributed
		D	In existing thermowell; not equally distributed
		E	Direct contact; not equally distributed
		F	Individual thermowells; not equally distributed
		G	Primary thermowell; equally distributed
		H	Primary thermowell; not equally distributed
040	Layout Design Insert:	A	Not fixed
		B	Fixed
		D	With guiding tube system
		Z	Special version, to be spec.
050	Number Measurement Points	X	..... points (2…48)
		8	..... points, ProfileSens
060	Inner Diameter Nozzle ID	X	..... inch
		0	According to standard tube schedule
		8	..... mm
070	Process Connection Type/Size	A1	***Flange 1/2"
		A2	***Flange 1"
		A3	Flange 1.1/2"
		A4	Flange 2"
		A5	Flange 3"
		A6	Flange 4"
		A7	Flange 6"
		A8	Flange 8"
		B1	***Flange DN15
		B2	***Flange DN25
		B3	Flange DN40
		B4	Flange DN50

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		B5	Flange DN80
		B6	Flange DN100
		B7	***Flange DN125
		B8	Flange DN150
		C1	Flange DN200
		ZZ	Special version, to be spec.
080	Rating Process Connection; Rating	A1	150lbs; ASME/ANSI B16.5
		A2	300lbs; ASME/ANSI B16.5
		A3	400lbs; ASME/ANSI B16.5
		A4	600lbs; ASME/ANSI B16.5
		A5	900lbs; ASME/ANSI B16.5
		A6	1500lbs; ASME/ANSI B16.5
		A7	2500lbs; ASME/ANSI B16.5
		B1	PN10; DIN/EN1092-1
		B2	PN16; DIN/EN1092-1
		B3	PN25; DIN/EN1092-1
		B4	PN40; DIN/EN1092-1
		B5	PN63; DIN/EN1092-1
		B6	PN100; DIN/EN1092-1
		B7	PN160; DIN/EN1092-1
		C1	Sch40; ASME B31.3
		C2	Sch80; ASME B31.3
		C3	Sch160; ASME B31.3
		C4	SchXXS; ASME B31.3
		ZZ	Special version, to be spec.
090	Process Connection Facing:	A	RF
		B	RTJ
		C	Type A
		D	Type B1
		Z	Special version, to be spec.
100	Process Connection Material:	A	316/1.4401+316L/1.4404
		B	304/1.4301+304L/1.4307
		C	316Ti/1.4571
		D	321/1.4541
		E	347/1.4550
		I	Alloy600
		F	Alloy625
		G	Alloy800
		H	Alloy825
		Z	Special version, to be spec.
110	Individual Thermowells	00	Not applicable
		0A	Primary Thermowell (same material as feature 100)
		0B	To be installed in existing thermowell
		02	6mm, 316+316L
		03	8mm, 316+316L
		16	6mm, 304+304L
		17	8mm, 304+304L
		20	6mm, 316Ti
		21	8mm, 316Ti
		04	6mm, 321
		05	8mm, 321
		06	6mm, 347
		07	8mm, 347
		10	6mm, Alloy600
		11	8mm, Alloy600
		22	6mm, Alloy625
		23	8mm, Alloy625

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		24	6mm, Alloy800
		25	8mm, Alloy800
		26	6mm, Alloy825
		27	8mm, Alloy825
		12	1/8", 316+316L
		30	1/8", 304+304L
		31	1/8", 316Ti
		13	1/8", 321
		14	1/8", 347
		15	1/8", Alloy600
		32	1/8", Alloy625
		33	1/8", Alloy800
		34	1/8", Alloy825
		ZZ	Special version, to be spec.
120	Sensor Type; Diam.; Material; Measuring Range;	ZZ	Special version, to be spec.
		01	TC type N;1.5mm; Alloy600; max. +920°C
		02	TC type N; 2mm; Alloy600; max. +920°C
		03	TC type N; 3mm; Alloy600; max. +1070°C
		04	TC type N; 4.5mm;Alloy600;max.+1150°C
		05	TC type N; 6mm; Alloy600; max. +1150°C
		1A	TC type K; 1.5mm; Alloy600; max. +920°C
		1B	TC type K; 2mm; Alloy600; max. +920°C
		1C	TC type K; 3mm; Alloy600; max. +1070°C
		1D	TC type K;4.5mm; Alloy600;max. +1150°C
		1E	TC type K; 6mm; Alloy600; max. +1150°C
		1F	TC type J; 1.5mm; 316L; max. +440°C
		1G	TC type J; 2mm; 316L; max. +440°C
		1H	TC type J; 3mm; 316L; max. +520°C
		1I	TC type J; 4.5mm; 316L; max. +620°C
		1J	TC type J; 6mm; 316L; max. +720°C
		1K	TC type N; 1.5mm; Pyrosil; max. +1100°C
		1L	TC type N; 2mm; Pyrosil; max. +1100°C
		1M	TC type N; 3mm; Pyrosil; max. +1100°C
		1N	TC type N; 4.5mm;Pyrosil;max. +1100Oc
		1O	TC type N; 6mm; Pyrosil; max. +1100°C
		1P	TC type T; 1.5mm; 316L; max. +260°C
		1Q	TC type T; 2mm; 316L; max. +260°C
		1R	TC type T; 3mm; 316L; max. +315°C
		1S	TC type T; 4.5mm; 316L; max. +370°C
		1T	TC type T; 6mm; 316L; max. +370°C
		10	TC type K; 1.5mm; 316L; -40...+800°C
		11	TC type K; 2mm; 316L; -40...+800°C
		12	TC type K; 3mm; 316L; -40...+800°C
		13	TC type K; 4.5mm; 316L; -40...+800°C
		14	TC type K; 6mm, 316L; -40...+800°C
		2A	Pt100 TF; 3mm; 316L; -50...+400°C
		2B	Pt100 TF; 6mm; 316L; -50...+400°C
		2C	Pt100 WW; 3mm; 316L; -200...+600°C
		2D	Pt100 WW; 6mm; 316L; -200...+600°C
		2E	Pt100 StrongSens; 6mm; 316L;-50...+500°C
		2F	Pt100 WW; 4.8mm; 316L; -200...+600°C
		3B	TC type K ProfileSens; 8mm; Alloy600; -40...+920°C
		3C	TC type K ProfileSens; 9.5mm; Alloy600; -40...+920°C
		3D	TC type K ProfileSens; 12.7mm; Alloy600; -40...+920°C
		3E	TC type K ProfileSens; 8mm; 316/316L; -40...+920°C
		3F	TC type K ProfileSens; 9.5mm; 316/316L; -40...+920°C
		3G	TC type K ProfileSens; 12.7mm; 316/316L; -40...+920°C

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		3H	TC type K ProfileSens; 8mm; 321; -40...+920°C
		3I	TC type K ProfileSens; 9.5mm; 321; -40...+920°C
		3J	TC type K ProfileSens; 12.7mm; 321; -40...+920°C
		3K	TC type N ProfileSens; 8mm; Alloy600; -40...+920°C
		3L	TC type N ProfileSens; 9.5mm; Alloy600; -40...+920°C
		3M	TC type N ProfileSens; 12.7mm; Alloy600; -40...+920°C
		3N	TC type N ProfileSens; 8mm; 316/316L; -40...+920°C
		3O	TC type N ProfileSens; 9.5mm; 316/316L; -40...+920°C
		3P	TC type N ProfileSens; 12.7mm; 316/316L; -40...+920°C
		3Q	TC type N ProfileSens; 8mm; 321; -40...+920°C
		3R	TC type N ProfileSens; 9.5mm; 321; -40...+920°C
		3S	TC type N ProfileSens; 12.7mm; 321; -40...+920°C
		3T	TC type J ProfileSens; 8mm; Alloy600; -40...+920°C
		3U	TC type J ProfileSens; 9.5mm; Alloy600; -40...+920°C
		3V	TC type J ProfileSens; 12.7mm; Alloy600; -40...+920°C
		3W	TC type J ProfileSens; 8mm; 316/316L; -40...+920°C
		3Z	TC type J ProfileSens; 9.5mm; 316/316L; -40...+920°C
		31	TC type J ProfileSens; 12.7mm; 316/316L; -40...+920°C
		32	TC type J ProfileSens; 8mm; 321; -40...+920°C
		33	TC type J ProfileSens; 9.5mm; 321; -40...+920°C
		34	TC type J ProfileSens; 12.7mm; 321; -40...+920°C
130	Sensor Execution:	G1	Grounded, single, standard (min. 10% OD)
		G2	Grounded, duplex, standard (min. 10% OD)
		S1	StrongSens, single (4-wire), standard (min. 10% OD)
		T1	TF, single (4-wire), standard (min. 10% OD)
		T2	TF, double (2x3-wire), standard (min. 10% OD)
		T3	TF, single (3-wire), standard (min. 10% OD)
		U1	Ungrounded, single, standard (min. 10% OD)
		U2	Ungrounded, duplex, standard (min. 10% OD)
		U3	Ungrounded, single, heavy (min. 15% OD)
		U4	Ungrounded, duplex, heavy (min. 15% OD)
		U5	Ungrounded, single, double wall, heavy (min. 20% OD)
		U6	Ungrounded, duplex, double wall, heavy (min. 20% OD)
		W1	WW, single (4-wire), standard (min. 10% OD)
		W2	WW, double (2x3-wire), standard (min. 10% OD)
		W3	WW, single (3-wire), standard (min. 10% OD)
		ZZ	Special version, to be spec.
140	Connecting Cable	A	Shielded, PVC sheath, -60...+105°C
		B	Shielded, Hyflon MFA sheath,-200...+250°C
		C	Shielded, FEP sheath, -200...+205°C
		D	Shielded, PFA sheath,- 200...+260°C
		E	Unshielded, PVC sheath, -60...+105°C
		F	Unshielded, Hyflon MFA sheath, -200...+250°C
		G	Unshielded, FEP sheath, -200...+205°C
		H	Unshielded, PFA sheath, -200...+260°C
		Z	Special version, to be spec.
150	Standard; Class:	**	Not safety relevant
160	Housing:	0	W/o
		2	Direct mounted
		4	Remote with protecting hose
170	Housing Material; Approval	A	Alu; ATEX II 2GD Ex e IIC Ex tb IIIC Db
		B	SS; ATEX II 2GD Ex e IIC Ex tb IIIC Db
		E	Alu; ATEX II 2GD Ex d IIC Ex tb IIIC
		K	Alu; IECEx Ex e IIC Ex tb IIIC Db
		L	SS; IECEx Ex e IIC Ex tb IIIC Db
		M	Alu; IECEx Ex d IIC Ex tb IIIC
		Z	Special version, to be spec.

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		0	Not applicable
180	Cable Entry Housing (Process Side)	E	Cable gland NPT1/2, Ni plated Brass
		F	Cable gland M20x1.5, Ni plated Brass
		G	Cable gland NPT1/2, Stainless Steel
		H	Cable gland M20x1.5, Stainless Steel
		Z	Special version, to be spec.
		0	Not applicable
190	Cable Output Housing (User Side)	E	NPT1/2 female thread (w/o cable gland)
		F	NPT1 female thread (w/o cable gland)
		G	M20x1.5 female thread (w/o cable gland)
		H	M25x1.5 female thread (w/o cable gland)
		I	Cable gland NPT1/2, Stainless Steel
		J	Cable gland NPT1, Stainless Steel
		K	Cable gland M20x1.5, Stainless Steel
		L	Cable gland M25x1.5, Stainless Steel
		M	Cable gland NPT1/2, Ni plated Brass
		N	Cable gland NPT1, Ni plated Brass
		O	Cable gland M20x1.5, Ni plated Bras
		P	Cable gland M25x1.5, Ni plated Brass
		Z	Special version, to be spec.
		0	Not applicable
200	Quantity Cable Output Housing	X	..... points
		Z	Special version, to be spec.
		0	Not applicable
210	Neck Design; Type Dimension F:	Z	Special version, to be spec.
		0	Not applicable
		4	Supporting frame with covers; 250 mm (9.84 inch)
220	Electrical Connection	AA	Flying leads
		GA	4-20mA HART, TMT162, field transmitter
		GB	FOUNDATION Fieldbus, TMT162, field transmitter
		GC	PROFIBUS PA, TMT162, field transmitter
		GG	4-20mA HART, 1-channel TMT142B, field transmitter
		GS	4-20mA HART, 2-channel TMT82, head transmitter DIN B
		GT	PROFIBUS PA, 2-channel TMT84, head transmitter DIN B
		GU	FOUNDATION Fieldbus, 2-channel TMT85, head transmitter DIN B
		GZ	Special version, to be spec.
		G1	Terminal block
		G2	4-20mA HART, 2-channel TMT82 SIL, head transmitter DIN B
		G3	4-20mA, 1-channel TMT71, head transmitter DIN B
		G4	4-20mA HART, 1-channel TMT72, head transmitter DIN B
		G5	PROFINET w. Ethernet-APL/SPE, TMT86 10Mbit/s, 2-channel, head transmitter DIN B
		G6	PROFINET w. Ethernet-APL/SPE, TMT86 SIL conformity + PROFIsafe, 10Mbit/s, 2-channel, head transmitter DIN B
230	Approval Type Transmitter	A	Not applicable
		B	ATEX
		F	IECEx
240	Quantity Electrical Connection	X	..... points
		Z	Special version, to be spec.
		0	Not applicable
250	Version According to TSP	**	Not safety relevant
510	>First Point Location LMP1:	**	Not safety relevant
520	>Last Point Location LMPn:	CX	... inch
		C8	... mm
570	>>Service	**	Not safety relevant
580	>>Test, Certificate, Declaration	**	Not safety relevant
590	>>Additional Approval	**	Not safety relevant

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600	>>Additional Option	**	Not safety relevant
610	>>Accessory Mounted	**	Not safety relevant
630	>Calibration/Evaluation Thermometer	**	Not safety relevant
640	>Quantity Calibrated Sensors	**	Not safety relevant
650	>Calibration Points >= 0 °C	**	Not safety relevant
660	>Calibration Points <= 0 °C	**	Not safety relevant
850	>Firmware Version	**	Not safety relevant
895	>>Marking	**	Not safety relevant

[15.2] **Ratings:**

Marking plate are shown in Doc.10000014105, for Intrinsically safe version and in Doc. 10000014106 for the Ex db and Ex tb versions.

[15.3] **Safety Ratings:**

Each thermoelement of TMS01 shall be connected to a certified intrinsically safe circuit. Electrical parameters of each input circuit are the followings:

Ui	≤	9,8 V
Ii	≤	30 mA
Pi	≤	50 mW for RTD
	≤	60 mW for TC
Ci	≤	40 nF
Li	≤	200 µH

Ambient temperature and process temperature:

[15.4]

Allowed process temperature range T_p(process)	**Allowed ambient temperature range T_a(ambient temperature)**
-55°C ÷ +440°C (for TC construction) -55°C ÷ +426°C (for RTD construction)	-55°C ÷ +100°C
-196°C ÷ +440°C (for TC construction) -196°C ÷ +426°C (for RTD construction)	-50°C ÷ +100°C

[15.5] **Degree of protection (IP code):**

IP66 according EN 60529

[15.6] **Warnings:**

WARNING (pictogram): SEE INTRUCTIONS document 10000014107 and 10000014108

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[16] **Report:** AT24-0099871-01

[16.1] **Routine (factory) tests:**
The manufacturer shall carry out the routine test prescribed at clauses 27 of the EN 60079-0.

Conformity with the documentation:
The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.
Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

[16.2]
1 the equipment has been constructed in accordance with the applicable requirements of the relevant standards in safety matters;
2 the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**
Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0.
Installation and use in atmospheric and environmental conditions that are out of above-mentioned intervals request special considerations and additional measures by the side of installer or user.
These should be specified to the manufacturer by the user;
It is not a required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.
Installation of equipment has to proceed according to EN 60079-14.

[17] **Specific Condition of use (X):**

- The TMS01 must be installed so, that even in the event of rare incidents, an ignition source due to impact or friction between the enclosure and iron/steel is excluded.
- When installing and commissioning the TMS01, make sure that an electrostatic charge of the connection cable is avoided.
- As a rule of the thumb, the whole length of each thermoelement installed within the TMS01 shall be limited to L≤200 m for single sensors, to L≤100 m for double and to L≤66.7 m for triple ones. For special applications (i.e. very long thermoelements), it shall always be verified the verification described in clauses 5.1 and 5.2.
- When install the TMS01, all the accessories used (e.g. cable glands, etc.) shall be certified according to IEC EN 60079-0, IEC EN 60079-1, IEC EN 60079-31, providing a degree of protection at least equal to the junction box one. For the correct choice of the cable entry system, please refer to IEC 60079-14 (latest revision) and/or to National Regulations and Laws.
- Associated apparatus with galvanic isolation between the intrinsically safe and non-intrinsically safe circuits are preferred.
- The separation between Zone 0/20 and Zone 1/21 shall be in compliance with requirements of IEC EN 60079-26.
- The TMS01 shall be connected to the same local potential equalization in at least one

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point (alternatively through the junction box or at process connection). The user shall assess the functionality.

- For the use of the enclosures in environments with explosive atmosphere for the combustible dust presence, the following precautions must be taken: to avoid the accumulation of dust on the surfaces, the user must proceed with a regular cleaning of the enclosures; the dust layer shall always less than 5 mm.
- The width of the flameproof joints is superior to those specified in IEC EN 60079-1 standard.
- No battery is permitted within the TMS01 assemblies.
- The ambient temperature Ta shall not exceed the values given in tables into safety instructions.
- The Ambient Temperature range of the TMS01 apparatus, may vary depending on the number and the type of the transmitters mounted inside to the Connection Head. For a safe use of the products, the Safety Instructions shall be followed precisely.
- End user's additional electrical equipment connected to TMS01 assembly shall be covered by same mode of protection and connection shall follow prescriptions of IEC EN 60079-14.
- For equipment TMS01_010=-B7, -ID, -86 following limitations apply:
  - inserts with sheath thickness ≥1 mm can be used in equipment without additional mechanical protection;
  - inserts with sheath thickness <1 mm can be used only if protected with a thermowell whose thickness is ≥1 mm.
- If TMS01_020=-C, -D it's not permitted the use of TMS01_220=-GP, -GV.
- When TMS01_020=-C, -D is selected, the maximum total length of each thermoelement shall be limited to L≤50 m for single thermocouple and to L≤25 m for double.
- If process temperatures are lower than -55°C, the minimum ambient temperature of TMS01 shall be reduced to -50°C and the minimum value of neck length shall be 240 mm.
- Process temperatures from -55°C to -196°C are permitted with the following materials only:
  - 316/1.4401 + 316L/1.4404, 304/1.4301 + 304L/1.4307, 316Ti/1.4571, 321/1.4541, 347/1.4550 according to Table B.2-11 of EN 13445-2 .
  - Alloy 625 (UNS N06625), Alloy 800 (UNS N08800) and Alloy 825 (UNS N08825) according to Table A-1 of ASME B31-3 .

[13] # Annex

[14] EU-type Examination Certificate number: **IMQ 24 ATEX 075 X**

[18] **Essential Health and safety Requirements**:
This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].
This Certificate **does not** cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VIII of the Directive by Manufacturer
ESHR 1.2.8 Overload : covered by installer by using device art. 1(b)
ESHR 1.4 Not verified; covered by installer.
ESHR 1.5 Applicable to art. 1(b) product
ESHR 3 Not applicable as this equipment is not a protective system.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report: none

[19] **Descriptive documents:**
DL-AT24-0099871-01

[20] **Certification Validity Conditions:**
The use of this Certificate is subject to the Certification Scheme and to the Regulation applicable to holders of IMQ Certificates.
The validity of this certificate is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.
One copy of the mentioned documentation is kept in IMQ file.

[21] **Variations**
Issue 0