



## EU Type Examination Certificate CML 18ATEX2109X Issue 2

- 1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU
- 2 Equipment **Pressure and temperature gauges types xGS, xGT, 1x1.11.050, 232.35.063, 4xx.x6, 5xx.5x, 632, 736, and x74**
- 3 Manufacturer **WIKA Alexander Wiegand SE & Co. KG**
- 4 Address Alexander-Wiegand-Str.  
30, 63911 Klingenberg,  
Germany
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 CML B.V. , Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, 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 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 Annex II to the Directive.

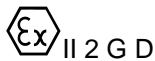
The examination and test results are recorded in the confidential reports listed in Section 12.

- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.
- 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:

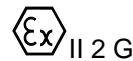


Ex ia IIC T6/T5/T4\* Gb

Ex ia IIIB T85°C/T95°C/T100°C/T135°C\* Db

\*See description for full details of applicable temperature range and ratings

Optional alternative marking for models with PTFE linings:



Ex ia IIB T6/T5/T4\* Gb

Ex ia IIA T6/T5/T4\* Gb



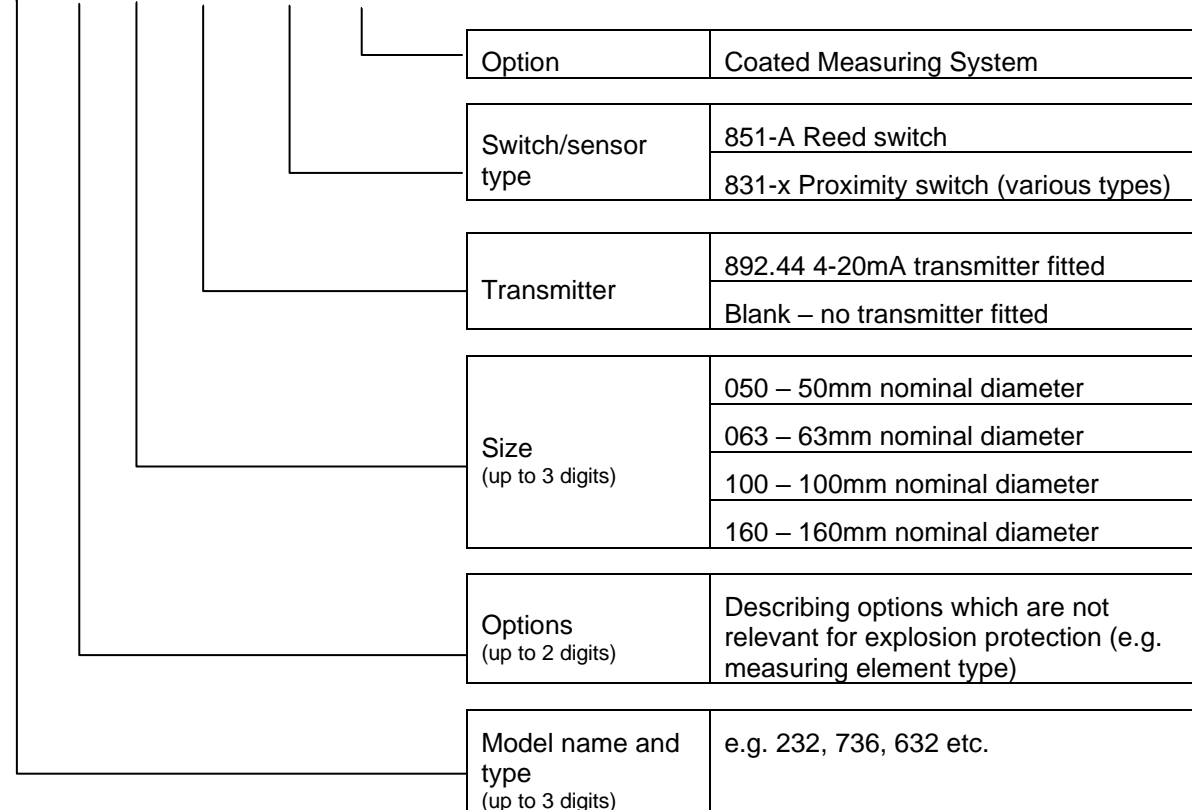
**11 Description**

The Pressure and temperature gauges types xGS, xGT, 1x1.11.050, 232.35.063, 4xx.x6, 5xx.5x, 632, 736, and x74 are a range of mechanical-temperature and mechanical-pressure gauges with integrated switches or certified proximity sensors, and 4-20mA transmitters which allow a variety of electrical outputs to be provided. The equipment is certified as intrinsically safe for use in group IIA, IIB and IIC\* gases and group IIIB combustible dusts and has equipment protection levels “Gb” and “Db”. (\*Models which incorporate a PTFE lining within the measuring element may optionally be labelled for use in Group IIA or IIB only).

The equipment may contain a 4-20mA transmitter, and/or bi-stable reed switches, and/or previously separately certified proximity sensors.

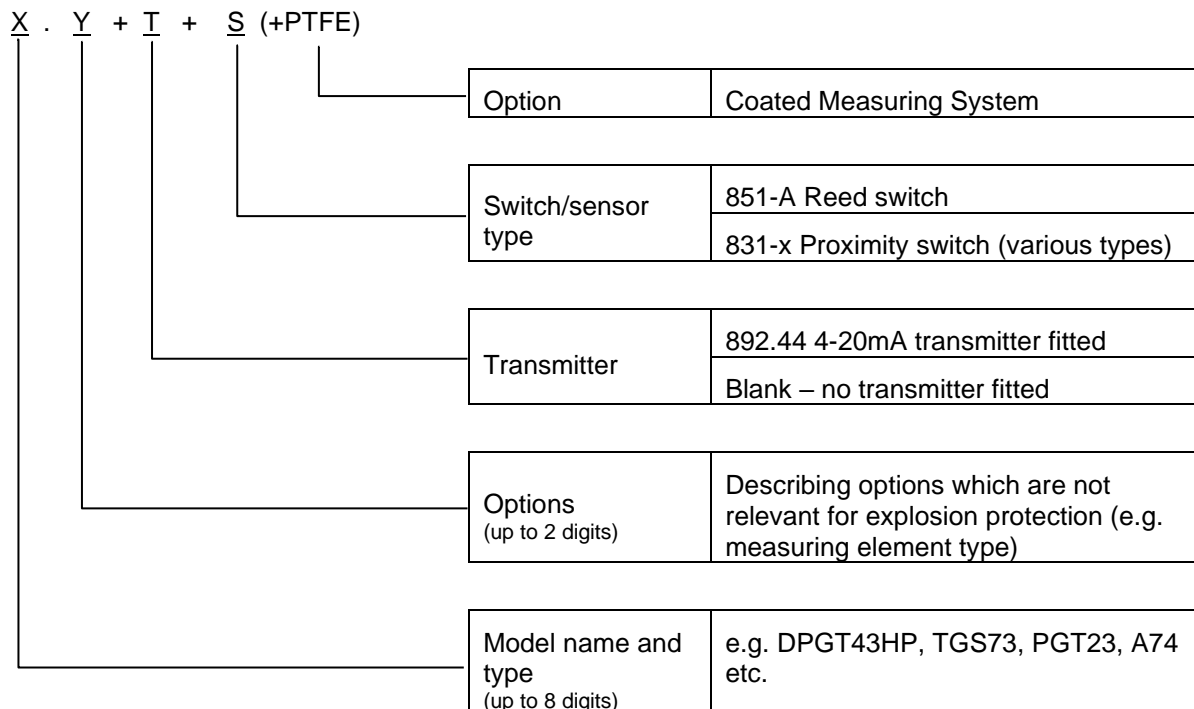
The equipment part number suffixes define the type and quantity of switches and/or proximity sensors fitted within the equipment, and whether or not a transmitter is fitted. Part numbers have one of the following generic formats:

X . Y . Z + T + S (+PTFE)





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The following table gives details of the model numbers, sizes, and equipment suffixes for the various options:

Table 1 – Equipment types

(N = option not available, Y = always fitted, O = optional, 0, 1, 2 or 3 = number of devices that may be fitted).

		Sensor/switch type (only one of these options may be fitted)						Bi-stable reed switch	4 - 20mA transmitter
		Proximity sensors							
WIKA part no suffix:		831-N	831-3.5N	831-SN	831-3.5S1N	831-3.5SN	831	851-A	892.44
Model name and type	Size								
PGS (Pressure)	063	1 or 2	N	1 or 2	N	N	1 or 2	1	N
	100	1 to 3	1 or 2	1 to 3	1 or 2	1 or 2	N	1 or 2	N
	160	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	N	1 or 2	N
APGS (absolute pressure) DPGS (Differential pressure) TGS (Temperature)	100	1 to 3	1 or 2	1 to 3	1 or 2	1 or 2	N	1 or 2	N
	160	1 to 3	1 to 3	1 to 3	1 to 3	1 to 3	N	1 or 2	N



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		Sensor/switch type (only one of these options may be fitted)						Bi-stable reed switch	4 - 20mA transmitter
		Proximity sensors							
WIKA part no suffix:		831-N	831-3.5N	831-SN	831-3.5S1N	831-3.5SN	831	851-A	892.44
Model name and type	Size								
PGT (Relative pressure) APGT (Absolute pressure) DPGT (Differential pressure)	100	0 to 3	0 to 2	0 to 3	0 to 2	0 to 2	N	0 to 2	Y
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	0 to 2	Y
TGT (Temperature)	100	0 to 3	0 to 2	0 to 3	0 to 2	0 to 2	N	N	Y
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	N	Y
1x1.11.050 (Relative pressure)	050	1	N	N	N	N	N	N	N
232.35.063 (Relative pressure)	063	0 to 2	N	0 to 2	N	N	0 to 2	0 or 1	N
4xx.x6 (High overpressure)	100	0 to 3	0 to 2	0 to 3	0 to 2	0 to 2	N	0 to 2	N
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	0 to 2	N
5xx.5x (Relative pressure)	100	0 to 3	0 to 2	0 to 3	0 to 2	0 to 2	N	0 to 2	N
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	0 to 2	N
632 (absolute pressure)	100	0 to 3	0 to 2	0 to 3	0 to 2	0 to 2	N	0 to 2	N
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	0 to 2	N
736 (Differential pressure)	100	0 to 3	0 or 2	0 to 3	0 or 2	0 or 2	N	0 or 2	N
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	0 or 2	N
X74 (Temperature)	100	0 to 3	0 to 2	0 to 3	0 to 2	0 to 2	N	0 to 2	N
	160	0 to 3	0 to 3	0 to 3	0 to 3	0 to 3	N	0 to 2	N

Note – all models have at least one proximity sensor, or one bi-stable reed switch, or a 4-20mA transmitter fitted.

All models have a lower operating temperature of -20°C.



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The following table details the applicable temperature class and maximum permitted ambient temperature for Group IIA, IIB, and IIC gas applications:

Table 2 – Ambient temperature for gas IIA, IIB, IIC:

<b>Equipment containing:</b>				<b>Temperature class</b>	<b>Ta (°C)</b>
<b>Proximity sensors</b>		<b>Bi-stable reed switch</b>	<b>4 - 20mA transmitter</b>		
Equipment suffixes: 831-N, 831-3.5N, 831-SN, 831-3.5S1N, 831-3.5SN	Equipment suffix 831	Equipment suffix 851-A	Equipment suffix 892.44		
Y	N	N	N	T6 T5	60 70
N	Y	N	N	T6 T5	60 70
N	N	Y	N	T6	70
N	N	N	Y	T6 T5 T4	45 60 70
Y	N	N	Y	T6 T5 T4	45 60 70
N	N	Y	Y	T6 T5 T4	45 60 70

The following table details the applicable temperature class and maximum permitted ambient temperature for Group IIIA, and IIIB combustible dust applications:

Table 3 – Ambient temperature for dust IIIA and IIIB:

<b>Equipment containing:</b>				<b>Maximum surface temperature</b>	<b>Ta (°C)</b>
<b>Proximity sensors</b>		<b>Bi-stable reed switch</b>	<b>4 - 20mA transmitter</b>		
Equipment suffixes: 831-N, 831-3.5N, 831-SN, 831-3.5S1N, 831-3.5SN	Equipment suffix 831	Equipment suffix 851-A	Equipment suffix 892.44		
Y	N	N	N	T135°C	70
N	Y	N	N	T95°C	70
N	N	Y	N	T85°C	70
N	N	N	Y	T85°C T100°C T135°C	45 60 70



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Equipment containing:				Maximum surface temperature	Ta (°C)
Proximity sensors		Bi-stable reed switch	4 - 20mA transmitter		
Equipment suffixes: 831-N, 831-3.5N, 831-SN, 831-3.5S1N, 831-3.5SN	Equipment suffix 831	Equipment suffix 851-A	Equipment suffix 892.44		
Y	N	N	Y	T135°C	70
N	N	Y	Y	T85°C T100°C T135°C	45 60 70

The equipment is fitted with one or two external 6 pole or 4 pole connectors or an integral cable for connection of the internal transmitter, switches and proximity sensors to associated apparatus located in the safe area. The equipment label details which internal equipment is connected to which poles of the external connectors.

Intrinsic safety is achieved by limiting energy storage and discharge, and by connecting to the non-hazardous area via intrinsically safe barriers.

Connections to switches, proximity sensors, and 4-20mA transmitter, have the following safety descriptions:

Proximity sensors			Bi-stable reed switch	4 - 20mA transmitter
Equipment suffixes: 831-N, 831-SN, 831-3.5S1N, 831-3.5SN	Equipment suffix 831-3.5N	Equipment suffix 831	Equipment suffix 851-A	Equipment suffix 892.44
Ui = 16V	Ui = 16V	Ui = 20V	Ui = 30V	Ui = 30V
li = 25mA	li = 25mA	li = 60mA	li = 100mA	li = 100mA
Pi = 64mW	Pi = 64mW	Pi = 130mW	Pi = 1.0W	Pi = 0.72W
Ci = 30nF	Ci = 50nF	Ci = 250nF	Ci = 0	Ci = 11nF
Li = 100µH	Li = 250µH	Li = 350µH	Li = 0	Li = 0



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### Variation 1

In this variation, the following modifications have been made:

- i. To transfer the CML UK ATEX Certificates to CML BV

### Variation 2

In this variation, the following modifications have been made:

- i. To update the standard EN 60079-0 to the latest issue.
- ii. To correct typographical errors and minor changes to description.
- iii. To include an alternative PTFE lining material option.

## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	23 Oct 2018	R2348A/00 and R2348B/00	Issue of prime certificate
1	13 Mar 2019	R12355A/00	Issue of variation 1
2	18 Feb 2020	R12996A/00	Issue of variation 2

Note: Drawings that describe the equipment or component are listed in the Annex.

## 13 Conditions of manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.
- ii. The manufacturer shall ensure that all electrical components within the equipment are suitable for total immersion in any fluid with which the equipment may be filled.
- iii. The equipment shall be capable of withstanding an electric strength test using a test voltage of 500 Vac applied between each individual circuit and earth, and between individual circuits, for 60s. Alternatively, a voltage of 20% higher may be applied for 1s. There shall be no evidence of flashover or breakdown and the maximum current flowing shall not exceed 5 mA.
- iv. The manufacturer shall ensure that models incorporating a PTFE lining within the measurement element are identified as such.

## 14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- 14.1 The temperature class and permitted maximum ambient temperature are dependent upon the options fitted within the equipment and may not be marked on the equipment label. The user shall refer to this certificate and to the equipment instructions for details of the applicable temperature class and ambient temperature range.
- 14.2 The user shall consider that heat may be transferred along the measurement probe and the equipment shall not exceed the maximum permitted ambient temperature. For further information, refer to the user instructions.



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- 14.3 Models which incorporate PTFE lining may be marked for use in Gas Groups IIA or IIB as well as IIC and Dust Hazardous Area Group IIIB Models marked for Groups IIC or IIIB shall also incorporate a warning label advising the user of a potential electro-static hazard within the process connection area. The user shall take all necessary precautions to mitigate the risk of electro-static discharge within the process connection.
- 14.4 The equipment may incorporate an integral cable. The user shall ensure that, when installed, the cable is fixed in place and is protected from mechanical damage.
- 14.5 For Group III applications, under certain extreme circumstances, the non-metallic coating of the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. The user/installer shall implement precautions to prevent the build-up of electrostatic charge, e.g. locate the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and clean with a damp cloth.