Certificate of Compliance

Certificate:	80021490	**Master Contract:**	205557
Project:	80290731	**Date Issued:**	2026-08-12
Issued to:	**Endress+Hauser Conducta GmbH & Co. KG** **Dieselstraße 24** **Gerlingen, Baden-Württemberg 70839** **Germany** **Attention:** Marco Rottmann	**Issued by:**	*Anil Sodhi* Anil Sodhi, P. Eng.

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

C US

PRODUCTS

Class 2258 04 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations
Class 2258 84 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I Div 1 Groups A, B, C, D
Ex ia IIC Tx* Ga
Class I Zone 0 AEx ia IIC Tx* Ga

Conductivity Sensors Memosens type xLS15E, xLS16E, xLS21E and xLS82E with suffixes as shown in the Product Nomenclature. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per Control DrawingXA02079C.

pH/ORP sensors Memosens type xPS##E: xPS11E, xPS12E, xPS16E, xPS31E, xPS41E, xPS42E, xPS61E, xPS62E, xPS71E, xPS72E, xPS76E, xPS91E, xPS92E, xPS96E with suffixes. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per

Control Drawing XA02235C.

pH/ORP sensors Memosens type xPF81E and xPF82E with suffixes as shown in the Product Nomenclature. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per Control Drawing XA02235C.

ISFET pH sensors Memosens type xPS47E, xPS77E, xPS97E. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per Control Drawing. XA02689C.

Oxygen sensors Memosens type xOS22E, xOS51E with suffixes as shown in the Product Nomenclature. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per Control Drawing XA03088C.

Class I Div 1 Groups A, B, C, D
Ex ia op is IIC T6 Ga
Class I Zone 0 AEx ia op is IIC T6 Ga
Class II Division 1 Groups E, F, G
Ex ia op is IIIC T90ºC Da
Zone 20 AEx ia op is IIIC T90ºC Da

Oxygen sensors Memosens type xOS81E with suffixes as shown in the Product Nomenclature. Maximum input power: Pi = 180mW, connection via inductive coupling. Inherently safe optical radiation: Popt < 15 mW. Installation as per Control Drawing XA03098C. Temperature class is T6 for a maximum Tamb and Tprocess of +60°C.

Note:*The temperature code Tx is defined in the Environmental data 1, 2, 3, 4, 5 and 6 below.

Class I Div 1 Groups A, B, C, D
Ex ia IIC T6 Gb
Class I Zone 0 AEx ia IIC T6 Gb

Sensor-simulator Memocheck type xYP02E- ** * ** *** +*(xYP02E). Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per Control Drawing XA02358C.

Class 2258 03 PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations
Class 2258 83 PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations - Certified to US Standards

NI Class I Div 2 Groups A, B, C, D T6
Ex ic IIC T6 Gc
Class I Zone 2 AEx ic IIC T6 Gc

Amperometric sensors Memosens types xCS50E, xCS51E, xCS53E, xCS55E and xCS58E with suffixes as shown in the Product Nomenclature. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per ControlDrawing XA03332C. Temperature class is T6 with maximum Tamb and Tprocess defined in the environmental data 7 below.

NI Class I Div 2 Groups A, B, C, D T6

Ion-selective sensor for continuous measurement, Memosens sensor type **CAS41E** with suffixes as shown in the Product Nomenclature. Maximum input power: Pi = 180mW, connection via inductive coupling. Installation as per ControlDrawing XA03761C. Tamb is -20 °C ≤ Ta ≤ +55 °C and Tprocess is +2 °C ≤ Tp ≤ +40 °C.

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APPLICABLE REQUIREMENTS

Standards Used	Description
CAN/CSA C22.2 No. 60079-0:19	Explosive atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No 60079-11:14	Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety 'i'
CSA C22.2 No. 60079-28:16 - First Edition	Explosive atmospheres - Part 28: protection of equipment and transmission systems using optical radiation
CSA C22.2 No. 213-17 -Third Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified Locations)
CAN/CSA C22.2 No. 61010-1-12	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements
ANSI/UL 60079-0-2019	Standard for Safety for Explosive Atmospheres - Part 0: General Requirements
ANSI/UL 60079-11-2013	Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety "i"
ANSI/UL 60079-28:2017 - Second Edition - Including revisions through December 8, 2017	Explosive Atmospheres – Part 28: Protection of Equipment and Transmission Systems Using Optical Radiation
ANSI/UL 121201:2017 - Ninth Edition	Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations
UL 61010-1:2012 - Third Edition - Including revisions through November 21, 2018	Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements

Conditions Of Acceptability

1. xLS15E, xLS16E, xLS21E, xOS81E: Metallic process connection parts have to be mounted electrostatically conductive at the mounting location (< 1 MΩ).
2. xLS15E and xLS21E, xOS51E with non-metallic process connection may only be used in liquid media with a conductivity of at least 10 nS/cm.
3. xLS15E with non-metallic process connection may not be operated on processing conditions, in which an electrostatic loading of the sensor and in particular of the electrically separated outer electrode, could be expected to occur.
4. xLS82E, xOS22E, xOS81E: The sensor may not be operated in electrostatically critical processing conditions. Intense vapour or dust flows directly impacting on the connection system must be avoided. The
   metallic parts of the sensor have to be mounted at the mounting location electrostatically conductive (< 1 MΩ).
5. The Sensors type xPS## E, xPF81E, xPF82E, xOS51E sensors may not be operated in electrostatically critical processing conditions. Intense vapour or dust flows directly impacting on the connection system must be avoided.
6. For xOS22E, xOS81E: If sensor parts are consisting of light metal e.g. Titan, then these parts have to protected against hits.
7. Do no operate xOS81E it in an atmosphere temperature above +60 °C unless the atmosphere is not considered explosive.
8. The plastic housing may only be cleaned with a damp cloth.
9. The maximum ambient and process temperatures for the temperature classes T3, T4 or T6 are limited according to the tables of this certificate (see "Environmental data 1, 2, 3, 4, 5 and 6 tables for all the sensors). The temperature table is only valid if the installation conditions specified in the manufacturer's operating instructions are observed. The manufacturer's operating instructions include the

control drawings. If these installation conditions cannot be met, the maximum process temperature range shall not exceed the maximum ambient temperature range.

10. The sensor should be inductive coupling connected with a certified Memosens compatible supply with Po ≤ 180 mW).
11. Additional for ISFET pH Sensors: The sensors may not be operated on processing conditions, in which an electrostatic loading of the sensor and the connecting system is to be counted. Operation in product application intended fluid media providing conductivity of at least 10 nS/cm can be assumed as electrostatic uncritical.
12. The non-metallic parts of the Memosens sensor CAS41E housing shall be protected from direct impact during installation and normal operation, thereby minimizing the risk of mechanical damage.

Environmental data 1:

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xLS15E-******A***+*	T3	-20 °C	135 °C	-20 °C	60 °C
	T4	-20 °C	120 °C	-20 °C	60 °C
	T6	-20 °C	70 °C	-20 °C	60 °C

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xLS15E-******B***+*	T3	-20 °C	135 °C	-20 °C	60 °C
	T4	-20 °C	100 °C	-20 °C	60 °C
	T6	-20 °C	50 °C	-20 °C	60 °C

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xLS16E-*********+*	T3	-5 °C	135 °C	-20 °C	60 °C
	T4	-5°C	115 °C	-20 °C	60 °C
	T6	-5 °C	65 °C	-20 °C	60 °C

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xLS21E-*********+*	T3	-20 °C	135 °C	-20 °C	60 °C
	T4	-20°C	115 °C	-20 °C	60 °C
	T6	-20 °C	65 °C	-20 °C	60 °C

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xLS82E-*********+*	T3	-20 °C	140 °C	-20 °C	60 °C
	T4	-20°C	120 °C	-20 °C	60 °C
	T6	-20 °C	70 °C	-20 °C	60 °C

Environmental data 2:

Sensor type	T class	T_p (process)		T_a (ambient)	
		min.	max.	min.	max.
xPS11E-**********+*	T3	-15 °C	135 °C	-15 °C	70 °C
xPS41E-**********+*	T4	-15 °C	120 °C	-15 °C	75 °C
xPS12E-**********+*			110 °C	-15 °C	80 °C
xPS42E-**********+*			100 °C	-15 °C	85 °C
xPS72E-**********+*			90 °C	-15 °C	90 °C
xPS16E-**********+*	T6	-15 °C	70 °C	-15 °C	70 °C

xPS61E-**********+*	T3	0 °C	140 °C	0 °C	70 °C
xPS71E-**********+*	T4	0 °C	120 °C	0 °C	75 °C
xPS62E-**********+*			110 °C	0 °C	80 °C
xPS76E-**********+*			100 °C	0 °C	85 °C
			90 °C	0 °C	90 °C
	T6	0 °C	70 °C	0 °C	70 °C
xPS31E-**********+*	T4	0 °C	80 °C	0 °C	90 °C
	T6	0 °C	70 °C	0 °C	70 °C
xPS91E-**********+*	T4	0 °C	110 °C	0 °C	80 °C
xPS92E-**********+*			100 °C	0 °C	85 °C
xPS96E-**********+*			90 °C	0 °C	90 °C
	T6	0 °C	70 °C	0 °C	70 °C
xYP02E-********+*	T6	n/a	n/a	-15°C	70 °C

Environmental data 3:

Sensor type	T class	T_p (process)		T_a (ambient)	
		min.	max.	min.	max.
xPS47E-*******+*	T3	-15 °C	135 °C	-15 °C	70 °C
xPS77E-*******+*	T4	-15 °C	115 °C	-15 °C	75 °C
			110 °C	-15 °C	80 °C
			100 °C	-15 °C	85 °C
			90 °C	-15 °C	90 °C
	T6	-15 °C	65 °C	-15 °C	65 °C
xPS97E-*******+*	T4	-15 °C	110 °C	-15 °C	80 °C
			100 °C	-15 °C	85 °C
			90 °C	-15 °C	90 °C
	T6	-15 °C	65 °C	-15 °C	65 °C

Environmental data 4:

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xPF81E	T4	0 °C	110 °C	0 °C	55 °C
	T6	0 °C	70 °C	0 °C	50 °C
xPF82E	T4	0 °C	80 °C	0 °C	55 °C
	T6	0 °C	70 °C	0 °C	50 °C

Environmental data 5:

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xOS22E	T4	-5 °C	100 °C	-25 °C	70 °C
	T6	-5 °C	70 °C	-25 °C	70 °C
xOS51E	T6	-5 °C	60 °C	-5 °C	60 °C

Environmental data 6:

Sensor type	T class	Tp (process)		Ta (ambient)	
		Min.	Max.	Min.	Max.
xOS81E	T6 rep. T90 °C	-15 °C	60 °C	-25 °C	60 °C

Environmental data 7:

Sensor type	Measuring Parameter	T class	Tp (process)		Ta (ambient)	
			Min.	Max.	Min.	Max.
xCS50E	Chlorine dioxide	T6	0°C	+55°C	-20°C	+60°C
xCS51E	Free Chlorine	T6	0°C	+55°C	-20°C	+60°C
xCS53E	Total Chlorine	T6	0°C	+55°C	-20°C	+60°C
xCS55E	Free Bromine	T6	0°C	+55°C	-20°C	+60°C
xCS58E	Ozone	T6	0°C	+45°C	-20°C	+55°C

Product Nomenclature for xLS sensors:

Name	Type								
Memosens	xLS15E xLS16E xLS21E xLS82E	-	**	**	**	a	***	+*	
								+*	optional = + one or more characters determining optional features (no ex-relevance)
							***	only if x = O, OC = three characters determining OEM/label partner (no ex-relevance)	
						a=A a=B	one character determining cell constant k = type A (cell constant k = 0.01 cm^{-1}) = type B (cell constant k = 0.1 cm^{-1})		
					**	= two characters determining sensor material, (no ex-relevance)			
				**	= two characters determining process connection (no ex-relevance)				
			**	= two characters determining order option approval certification, no Ex relevance					
	x = C x = O x = OC	E+H-labeled version (no Ex relevance) OEM/label partner-labeled version (no Ex relevance) OEM/label partner-labeled version (no Ex relevance)							

Product Nomenclature for xPS sensors:

Name		Type								
Memosens	xPSx1E xPSx2E xPSx6E	-	**	*	*	**	*	**	+*	
									+*	optional = one or more characters determining optional features, no Ex relevance
								***		only if x = O, OC = three characters determining OEM/label partner (no ex-relevance)
							*			= one character determining shaft length, max. 600 mm, no Ex relevance

						**	= two characters determining reference system, no Ex relevance
					*		= one character determining application range, no Ex relevance
				*			= one character determining type of electrode, e. g. zero point at pH value 7, no Ex relevance
			**				= two characters determining order option approval certification, no Ex relevance.
	x = C x = O x = OC						E+H-labeled version (no Ex relevance) OEM/label partner-labeled version (no Ex relevance) OEM/label partner-labeled version (no Ex relevance)

Product Nomenclature for xPS#7E (ISFET) sensors:

ISFET sensors for pH measurement

Type	-	aa	b	cc	dd	e	f
xPS47E	-	**	*	*	**	*	+*
xPS77E	-	**	*	*	**	*	+*
xPS97E	-	**	*	*	**	*	+*

Where:

x:	C, O or OC
aa: Approval	any two characters (not ex-relevant)
b: Electrode type	any one character (non ex-relevant)
cc: Application range	any two characters (non ex-relevant)
dd: Reference system	any two characters (non ex-relevant)
e: shaft length	max. 600 mm (not ex-relevant)
f:	one or more characters (not ex-relevant)

Product Nomenclature for xPF##E:

Memosens	xPF81E-aabcddefff+g xPF82E-aabcddefff+g	
	x	C, O or OC (no ex-relevance)
	aa	Order option ex certification (no ex-relevance)
	b	Electrode Type (no ex-relevance)
	c	Application range (no ex-relevance)
	dd	Reference system (no ex-relevance)
	e	Insertion length (no ex-relevance)
	fff	only if x = O, OC = three characters (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Product Nomenclature for xOS22E:

Memosens	xOS22E-aabbccddefff+g	
	x	O, C or OC (no ex-relevance)
	aa	Order option ex-certification (no ex-relevance)
	bb	Measuring range (no ex-relevance)

	cc	Cap characteristics AA = Stainless steel BA = Titan CA = Alloy C22 YY = Special version
	dd	Sensor length (no ex-relevance) max 600 mm
	e	O-ring material (in the cap) (no ex-relevance)
	fff	only if x = O, OC (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Product Nomenclature for xOS51E:

Memosens	xOS51E-aabbccfff+g	
	x	O, C or OC (no ex-relevance)
	aa	Order option ex-certification (no ex-relevance)
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics (no ex-relevance) TF = Response time T90, 0,5 minutes steel TN = Response time T90, 3 minutes YY = Special version
	fff	only if x = O, OC (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Product Nomenclature for xOS81E:

Memosens	xOS81E-aabbccddefff+g	
	x	O, C or OC (no ex-relevance)
	aa	Order option ex certification (no ex-relevance)
	bb	Measuring range (no ex-relevance)
	cc	Cap characteristics AC = Stainless steel C-shape AU = Stainless steel U-shape BC = Titan C-shape BU = Titan U-shape CC = Alloy C22 C-shape CU = Alloy C22 U-shape YY = Special version
	dd	Sensor length (no ex-relevance) max 600 mm
	e	O-ring material (in the cap) (no ex-relevance)
	fff	only if x = O, OC = three characters determining OEM/label partner (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Product Nomenclature for xCS50E, xCS51E, xCS53E, xCS55E & xCS58E

Memosens	xCS50E-aabbccddefff+g xCS51E-aabbccddefff+g xCS53E-aabbccddefff+g xCS55E-aabbccddefff+g xCS58E-aabbccddefff+g

	x	O, C or OC (no ex-relevance)
	aa	Order option ex certification (no ex-relevance)
	bb	Application (no ex-relevance)
	cc	Measuring Range (no ex-relevance)
	dd	Adapter Mounted (no ex-relevance)
	e	O-ring material (in the cap) (no ex-relevance)
	fff	only if x = O, OC = three characters determining OEM/label partner (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Product Nomenclature for xAS41E

Memosens	xAS41E-aabbccddeeffggg+h	
	x	O, C or OC (not ex-relevant)
	aa	Approval (not ex-relevant)
	bb	Material Shaft; Seals 11 = 316L/ 1.4404; EPDM
	cc	Process Connection (not ex-relevant)
	dd	ISE-slot 1 (not ex-relevant)
	ee	ISE-slot 2(not ex-relevant)
	ff	ISE-slot Compensation (not ex-relevant)
	ggg	only if x = O, OC (not ex-relevant)
	h	Optional = one or more characters determining optional features (not ex-relevant) e.g. test or other certificates/ declarations

Certificate: 80021490 **Master Contract**: 205557

Project: 80290731 **Date Issued**: 2026-08-12

Notes:

Products certified under Class(es) C225803, C225804, C225883, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Supplement to Certificate of Compliance

Certificate: 80021490 **Master Contract:** 205557

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
80290731	2026-08-12	Update cCSAus certification report 80021490 to assess the following modifications: 1. Addition of new Memosens CAS41E sensor 2. Removal of sensors xPS47D, xPS77D and xPS97D due to obsolesce 3. Address an FIR findings for minor corrections in the report 4. Update of descriptive documents
80149231	2023-08-15	Update of cCSAus report # 80021490 (last project 80086777) to permit: i) the addition of two alternative PCB assemblies for the KSG3, KSR3, KSC2 & KSK2 electronics used in the Memosens -Sensors pH/ORP-Sensors type xPS ** E- ** * * ** * *** +* and Sensor-simulator Memocheck type xYP02E- ** * ** *** +*. Sensor models. ii) the addition of five new Memosens Sensors xCS50E, xCS51E, xCS53E, xCS55E and xCS58E to the range. The sensors use previously certified KSAM2 electronics, but are certified as Non-incendive Equipment for use in Class 1 Division 2 Groups A, B, C, D, T6 hazardous (classified) locations and as intrinsically safe equipment with level of protection 'ic', Gas Group IIC T6 Gc
80086777	2022-02-10	Update of certificate 80021490 (Last project 80064813) based of alternate construction
80064813	2021-04-05	Update cCSAus report # 80021490 for intrinsically safe Conductivity Sensors Memosens series for addition of new models, changes to resistor values and update of 13 descriptive documents. Based on the latest edition of IECEx BVS 19.0056X (Issue 1) and IECEx TUR 19.0030X (Issue 1)
80021490	2020-04-16	Prime certification to issue cCSAus report for the following sensor models: Conductivity Sensors Memosens type: CLS15E, CLS16E, CLS21E, CLS82E and pH/ORP Memosens Sensors type: CPS11E, CPS12E, CPS31E, CPS41E, CPS42E, CPS61E, CPS71E, CPS72E, CPS91E, CPS92E and Memocheck sensor simulator type: CYP02E