



	<h1>TARAline CP4MA*-AT</h1>	
Messgröße	Gesamtchlor = freies Chlor + gebundenes Chlor (TRO = total residual oxidants) Reduzierte pH-Abhängigkeit	
Einsatzbereich	Meerwasser, Ballastwasser Tenside werden teilweise toleriert.	
Geeignete Chlorungsmittel	Anorganische Chlorverbindungen: NaOCl (=Chlorbleichlaug), Ca(OCl) ₂ , Chlorgas, elektrolytisch erzeugtes Chlor	
Messprinzip	Membranbedecktes, amperometrisch arbeitendes potentiostatisches 3-Elektrodensystem mit integrierter Elektronik	
Elektrischer Anschluss	Darf nur an eine geeignete Zenerbarriere angeschlossen werden. (siehe Bedienungsanleitung „TARAline CP4MA-AT“)	
Elektronik	mA-Ausführung: <ul style="list-style-type: none"> - Stromausgang - analoge, nicht potentialgetrennte Elektronik - Ausgangssignal: analog (analog-out/analog) 	
Informationen zum Messbereich bei Messzellen mit 4-20 mA	<p>Steilheit der Messzelle kann herstellungs- und anwendungsbedingt zwischen 65% und 150% der angegebenen Nennsteilheit variieren</p> <p>-> Empfehlung zur Bestimmung des passenden Messbereichs bzw. der passenden Messzelle: zu messende Konzentration x Faktor 1,5 = Messbereich der Messzelle</p> <p>Beispiel: zu messende Konzentration 1,6 ppm x 1,5 = 2,4 -> empfohlene Messzelle mit Messbereich 5 ppm</p>	
Steilheitsdrift Bei Wiederholbedingungen (25 °C, pH 7,2 in Trinkwasser)	ca. <-1% pro Monat	
Betriebstemperatur	Messwasser Temperatur 0 ... +45 °C (keine Eiskristalle im Messwasser)	
	Umgebungstemperatur Ta = ≥0 ... +55 °C	
Temperaturkompensation	Automatisch, durch integrierten Temperaturfühler Temperatursprünge sind zu vermeiden	
Druck	Nenndruck: 0,3 bar, keine Druckstöße und/oder Schwingungen	
	Max. zul. Betriebsdruck:	Betrieb ohne Sicherungsring: 0,5 bar, keine Druckstöße und/oder Schwingungen
		Betrieb mit Sicherungsring: 0,5 bar, keine Druckstöße und/oder Schwingungen

	<h1>TARAline CP4MA*-AT</h1>
Durchflussmenge	Ca. 15-30 l/h in TARAflow FLC, geringe Durchflussabhängigkeit ist vorhanden
pH-Bereich	pH 4 – pH 12, stark verringerte pH-Wert-Abhängigkeit (siehe Diagramm „Slope of TARAline CP4 versus pH“)
Einlaufzeit	Bei Erstinbetriebnahme ca. 2 h
Ansprechzeit	T ₉₀ : ca. 2 min.
Nullabgleich	Nicht erforderlich
Steilheitsabgleich	Am Messgerät, mittels analytischer Bestimmung, DPD-4-Methode (DPD-1 + DPD-3)
Querempfindlichkeiten	Nur bei Gesamtchlormessung: ClO ₂ : Faktor 1 O ₃ : Faktor 1,3
Abwesenheit des Desinfektionsmittels	Max. 24 h
Anschluss	Ausführung 4-20 mA: 2-pol Klemmenanschluss
Werkstoff	Mikroporöse hydrophile Membrane, PVC-U, PEEK, Edelstahl 1.4571
Maße	Durchmesser: ca. 25 mm Länge: Ausführung 4-20 mA ca. 220 mm
Transport	+5 ... +50 °C (Sensor, Elektrolyt, Membrankappe)
Lagerung	Sensor: trocken und ohne Elektrolyt unbegrenzt lagerfähig bei +5 ... +40 °C
	Elektrolyt: in Originalflasche und vor Sonnenlicht geschützt bei +5 ... +35 °C mind. 1 Jahr bzw. bis zum angegebenen EXP-Date
	Membrankappe: in Originalverpackung unbegrenzt lagerfähig bei +5 ... +40 °C (benutzte Membrankappen können nicht gelagert werden)
Wartung	Regelmäßige Kontrolle des Messsignals min. einmal pro Woche Die folgenden Angaben sind abhängig von der Wasserqualität: Membrankappenwechsel: einmal pro Jahr Elektrolytwechsel: alle 6 Monate

	<h1>TARAline</h1> <h1>CP4MA*-AT</h1>
	<p>EMV-Prüfung DIN EN 61326-1, 61326-2-3 RoHS konform</p>
<p>Ex-Schutz</p>	<p>Geprüft nach ATEX und IECEx Eigensicherheit "i" (Zertifikate, siehe Seiten 6-12 dieses Datenblatts)</p>
	<p>Kennzeichnung: Ex II 2G Ex ib IIB T5 Gb</p> 
	<p>Zone: EPL "Gb" entspricht der Zone 1 EPL = Explosion Protection Level</p>

Technische Daten

1. CP4MA*-AT 4-20 mA (Analogausgang, analoge interne Signalverarbeitung)


analog-out / analog

Darf nur an eine geeignete Zenerbarriere angeschlossen werden!!!
 Siehe hierzu Bedienungsanleitung, Abschnitt 3 „Ex-Schutz Spezifikationen“.

elektrische Grenzwerte für Messzellenelektronik:

Versorgungsspannung: 12...24VDC

Strom: 4 ... 20 mA

	Messbereich	Auflösung	Ausgang Ausgangs- widerstand	Nennsteilheit (bei pH 7,2)	Spannungs- versorgung	Anschluss
	in ppm als Cl ₂	in ppm als Cl ₂		in mA/ppm als Cl ₂		
CP4MA2-AT	0,005...2,000 *	0,001	4...20 mA unkalibriert	4,8	12...24 VDC R _L 50Ω...R _L 900Ω	2-pol. Klemme (2 x 1 mm ²) Empfohlen: Rundkabel Ø 4 mm 2 x 0,34 mm ²
CP4MA5-AT	0,05...5,00 *	0,01		1,92		
CP4MA10-AT	0,05...10,00 *	0,01		0,96		
CP4MA20-AT	0,05...20,00 *	0,01		0,48		

* bis zur angegebenen Konzentration geprüft und freigegeben

(Technische Änderungen vorbehalten!)

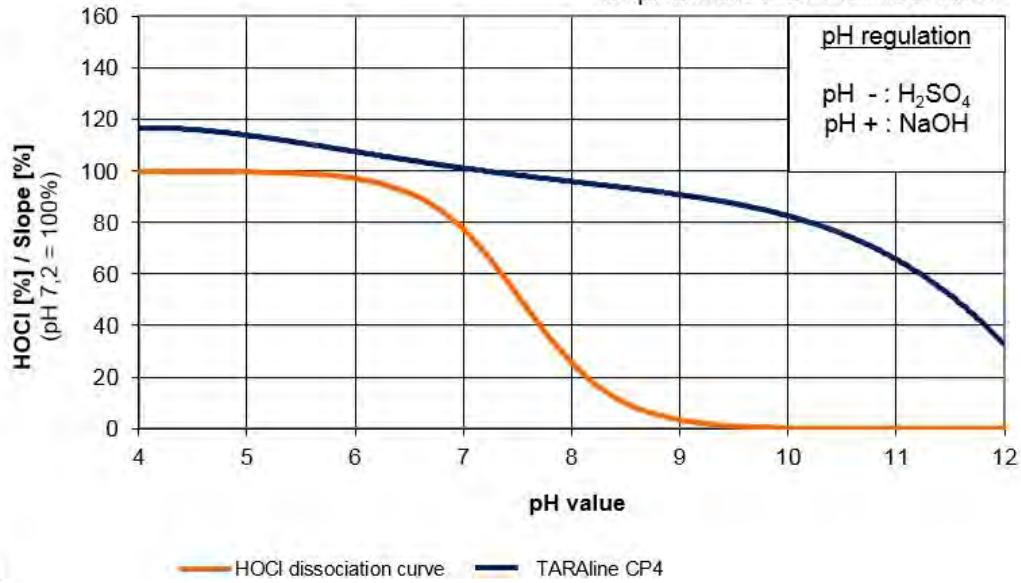
Ersatzteile

Typ	Membrankappe	Elektrolyt	Schmirgel	O-Ring
Für alle CP4MA*-AT	M48.4S Art. Nr. 11051-S	ECP1.4/GEL, 100 ml Art. Nr. 11006.1	S1 Art. Nr. 11908	14 x 1,8 NBR Art. Nr. 11806

(Technische Änderungen vorbehalten!)

Slope of TARAline CP4 versus pH

Temperature: 25°C / Flow rate: 30 l/h



0101/001



Translation
EU-Type Examination Certificate Supplement 3

Change to Directive 2014/34/EU

2 **Equipment or Protective System intended for use in potentially explosive atmospheres**
Directive 2014/34/EU

3 EU-Type Examination Certificate Number: **BVS 13 ATEX E 101 X**

4 Product: **Sensor Typ X-BS1MA**, TC2-BS**, CP4MA**-AT**

5 Manufacturer: **Reiss GmbH**

6 Address: **Eisleber Straße 5, 69469 Weinheim, Germany**

7 This supplementary certificate extends EC-Type Examination Certificate No. BVS 13 ATEX E 101 X to apply to products designed and constructed in accordance with the specification set out in the Appendix of the said certificate but having any variations specified in the Appendix attached to this certificate and the documents therein referred to.

8 DEKRA EXAM GmbH, Notified Body number 0158, 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 the Confidential Report No. PP 13.2193 EU.

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

EN 60079-0:2012 + A11:2013 General requirements
EN 60079-11:2012 Intrinsic Safety "i"

Except in respect of those requirements listed under item 18 of the appendix.

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 appendix 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:

Ex II 2G Ex ib IIB T5 Gb

DEKRA EXAM GmbH
Bochum, 2016-06-02

Signed: Simanski

Certifier

Signed: Dr. Wittler

Approver



Page 1 of 3 of BVS 13 ATEX E 101 X / N3
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DEKRA EXAM GmbH, Dinnendahlstrasse 8, 44809 Bochum, Germany,
telephone +49 234 3696-105, Fax +49 234 3696-110, zs-exam@dekra.com



13 **Appendix**

14 **EU-Type Examination Certificate**

**BVS 13 ATEX E 101 X
Supplement 3**

15 **Product description**

15.1 **Subject and type**

Sensor Typ X-BS1MA**, CP4MA**-AT, TC2-BS*
Instead of the ** in the complete denomination numerals will be inserted to characterize the measuring range.
The specified types are identical devices, which differ only in the type designation.

15.2 **Description**

With this supplement the certificate is changed to Directive 2014/34/EU.
(Annotation: In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.)

Reason for the supplement:
Introduction of the alternative types TC2 - BS ** and CP4MA **-AT.

Description of Product
The sensor is set for the measurement of the chlorine concentration in the ballast water of vessels. It consists of a bar-shaped shaft. At the bottom of the shaft the electrode finger is located.
The measuring part of the bar-shaped sensor is installed in a probe housing made of acrylic glass. The sample water from the ballast water stream flows through this probe housing. At the exterior part of the sensor a two-pole electrical connection is available. This connection can be covered. The electronic circuit is completely sealed in the bar-shaped PVC-U housing. By a suitable two-wire electrical cable the 4 – 20 mA signal is lead through the Ex-area and connected to a suitable supply and evaluation device.

15.3 **Parameters**

Voltage	Ui	DC	25.4	V
Current	Ii		115	mA
Power	Pi		650	mW
Effective internal capacitance	Ci		120	nF
Effective internal inductance	Li		13	nH
Ambient temperature range	Ta		0 up to +55	°C

16 **Report Number**

BVS PP 13,2193 EU, as of 2016-06-02

Page 2 of 3 of BVS 13 ATEX E 101 X / N3
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telephone +49 234 3696-105, Fax +49 234 3696-110, zs-exam@dekra.com



17 **Special conditions for use**

- 17.1 The sensor shall be mounted in areas where electrostatic charge / discharge will be avoided.
- 17.2 Along the external intrinsically safe circuit (between sensor and power supply) must be equipotential equalization.

18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
Bochum, dated 2016-06-02
BVS-Hilf/Schu/Nu A 20160347

Certifier

Approver



		<h1>IECEX Certificate of Conformity</h1>	
INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEx Scheme visit www.iecex.com</small>			
Certificate No.:	IECEX BV5 13.0104X	issue No.:3	Certificate history: Issue No. 3 (2016-6-9) Issue No. 2 (2016-1-13) Issue No. 1 (2014-12-9) Issue No. 0 (2013-10-10)
Status:	Current		
Date of Issue:	2016-06-09	Page 1 of 4	
Applicant:	Reiss GmbH Eisleber Straße 5 69469 Weinheim Germany		
Electrical Apparatus: Optional accessory:	Sensor type X-BS1MA**, CP4MA**-AT, TC2-BS**		
Type of Protection:	Equipment protection by intrinsic safety "I"		
Marking:	Ex ib IIB T5 Gb		
Approved for issue on behalf of the IECEx Certification Body:	H.-Ch. Simanski		
Position:	Head of Certification Body		
Signature: (for printed version)			
Date:	9.6.2016		
<ol style="list-style-type: none">1. This certificate and schedule may only be reproduced in full.2. This certificate is not transferable and remains the property of the issuing body.3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.			
Certificate issued by:			
DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany		 DEKRA On the safe side.	



IECEx Certificate of Conformity

Certificate No.: IECEx BVS 13.0104X

Date of Issue: 2016-06-09

Issue No.: 3

Page 2 of 4

Manufacturer: **Reiss GmbH**
Eisleber Straße 5
68469 Weinheim
Germany

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-11 : 2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
Edition: 6.0

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

DE/BVS/ExTR13.0112/03

Quality Assessment Report:

DE/BVS/QAR13.0008/02



IECEx Certificate of Conformity

Certificate No.: IECEx BVS 13.0104X

Date of Issue: 2016-06-09

Issue No.: 3

Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Subject and Type

Sensor type X-BS1MA**

Sensor type X-BS1MA** or type CP4MA**-AT or type TC2-BS**

Instead of the ** in the complete denomination numerals will be inserted to characterize the measuring range.

The specified types are identical devices, which differ only in the type designation.

Description

The sensor is set for the measurement of the chlorine concentration in the ballast water of vessels. It consists of a bar-shaped shaft. At the bottom of the shaft the electrode finger is located.

The measuring part of the bar-shaped sensor is installed in a probe housing made of acrylic glas. The sample water from the ballast water stream flows through this probe housing. At the exterior part of the sensor a two-pole electrical connection is available. This connection can be covered. The electronic circuit is completely sealed in the bar-shaped PVC-U housing. By a suitable two-wire electrical cable the 4 – 20 mA signal is lead through the Ex-area and connected to a suitable supply and evaluation device.

Parameters

Voltage	Ui DC	25.4	V
Current	Ii	115	mA
Power	Pi	650	mW
Effective internal capacitance	Ci	120	nF
Effective internal inductance	Li	13	nH
Ambient temperature range	Ta	0 °C up to +55 °C	

CONDITIONS OF CERTIFICATION: YES as shown below:

- 1 The sensor shall be mounted in areas where electrostatic charge/discharge will be avoided,
- 2 Along the external intrinsically safe circuit (between sensor and power supply) must be equipotential equalization.



IECEX Certificate of Conformity

Certificate No.: IECEX BVS 13.0104X

Date of Issue: 2016-06-09

Issue No.: 3

Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Introduction of the alternative types TC2 - BS ** and CP4MA **-AT.