

# IECEX Certificate of Conformity



## IECEX Certificate of Conformity

### INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEX DEK 15.0020 Issue No: 0 Certificate history:  
Issue No. 0 (2015-06-03)

Status: Current Page 1 of 4

Date of Issue: 2015-06-03

Applicant: Endress+Hauser Conducta GmbH+Co.KG  
Dieselstrasse 24  
70839 Gerlingen  
Germany

Electrical Apparatus: Measuring System Type CYM291  
Optional accessory:

Type of Protection: Ex ia

Marking: Ex ia IIC T4/T3 Ga

Approved for issue on behalf of the IECEX  
Certification Body:

M. Erdhuizen

Position:

Certification Manager

Signature:  
(for printed version)

  
2015 - 06 - 03

Date:

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](http://Official IECEX Website).

Certificate issued by:

DEKRA Certification B.V.  
Meander 1051,  
6825 MJ Arnhem  
The Netherlands



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Manufacturer: **Endress+Hauser Conducta GmbH+Co.KG**  
Dieselstrasse 24  
70839 Gerlingen  
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:

<b>IEC 60079-0 : 2011</b> Edition:6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-11 : 2011</b> Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "I"
<b>IEC 60079-26 : 2006</b> Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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:

[NL/DEK/ExTR15.0043/00](#)

#### Quality Assessment Report:

[DE/BVS/QAR06.0005/06](#)

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### Schedule

#### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The Measuring System Type CYM291 is a battery powered hand-held electrical equipment for pH, conductivity and temperature measurement for digital sensors. The USB interface is only for use outside of the explosion hazardous area. The ambient temperature range and temperature class depends on the batteries used as follows:

<u>Battery:</u>	<u>Ambient temperature range:</u>	<u>Temperature class:</u>
Duracell MN1500	-10°C to +40°C	T4
Energizer E91	-10°C to +50°C	T3
Power One 4106	-10°C to +50°C	T3
Panasonic Pro Power LR6	-10°C to +50°C	T3

CONDITIONS OF CERTIFICATION: NO

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Additional Information:

Annex:

NL\_DEK\_ExTR15\_0043\_00 Attachment.pdf

# IECEX Certificate of Conformity

Attachment to: IECEx DEK 15.0020, DEKRA 15ATEX0028  
 NL/DEK/ExTR15.0043/00  
 Applicant's name: Endress+Hauser Conducta GmbH+Co.KG  
 Test item: Measuring System Type CYM291



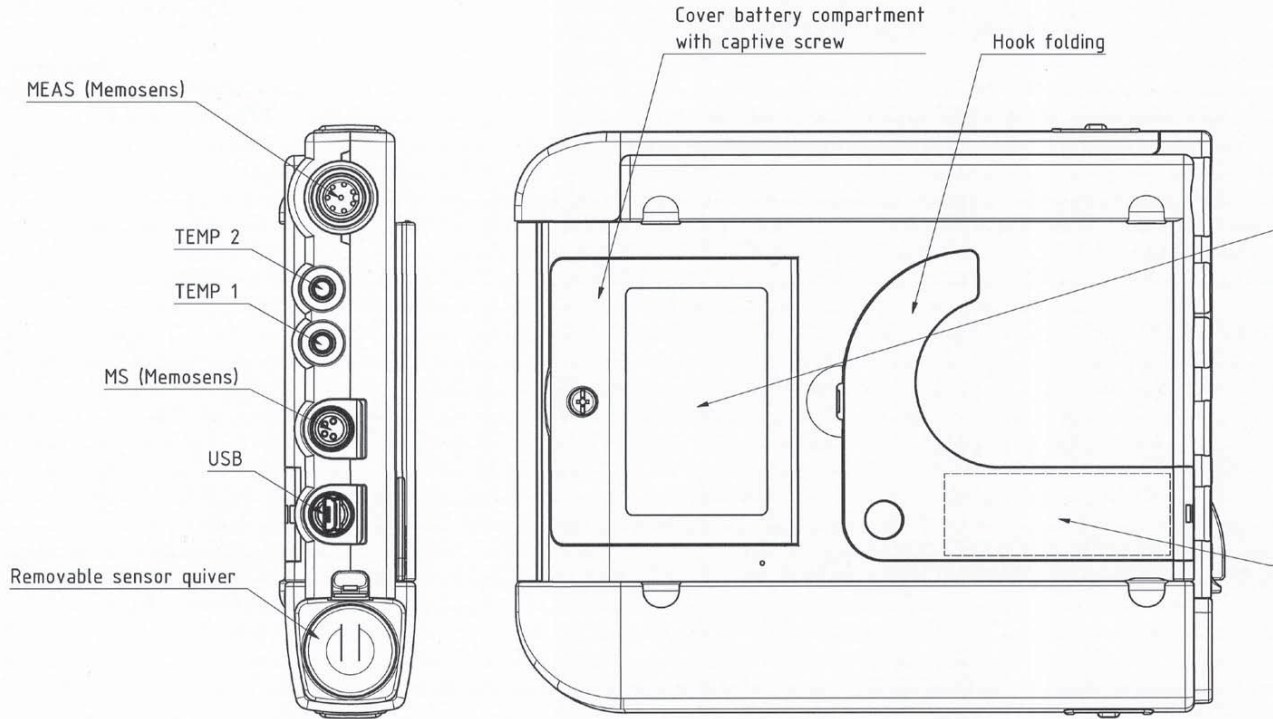
## Electrical data

Supply	Only the following batteries may be used: Duracell MN1500 Energizer E91 Power One 4106 Panasonic Pro Power LR6											
	in type of protection intrinsic safety, with the following maximum values:											
						Ex ia IIC		Ex ia IIB		Ex ia IIA		
	U <sub>0</sub> (V)	I <sub>0</sub> (mA)	P <sub>0</sub> (mW)	C <sub>i</sub> (μF)	L <sub>i</sub> (mH)	C <sub>0</sub> (μF)	L <sub>0</sub> (mH)	C <sub>0</sub> (μF)	L <sub>0</sub> (mH)	C <sub>0</sub> (μF)	L <sub>0</sub> (mH)	
Temperature measurement circuit (TEMP1, TEMP2)	4,1	4,4	4,6	0,123	0	99	1000	999	1000	999	1000	Linear characteristic
Memosens interface circuit (MS and/or MEAS)	4,6	113	130	3,62	0	96	2,8	996	11	996	22	Linear characteristic
USB Interface (micro USB-B)	U <sub>m</sub> = 250 V											



# Control Drawing

Hazardous (Classified) Location  
 Liquiline To Go Ex CYM291, Batterie Powered pH, Conductivity and Dissolved Oxygen Meter  
 Intrinsically Safe  $\text{Ex}$  II 1G Ex ia IIC T4/T3 Ga  
 IECEx DEK 15.0020 15ATEX0028



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	In type of protection intrinsic safety, with the following maximum values											
	U <sub>o</sub> (V)	I <sub>o</sub> (mA)	P <sub>o</sub> (mW)	C <sub>i</sub> ( $\mu$ F)	L <sub>i</sub> (mH)	Ex ia IIC		Ex ia IIB		Ex ia IIA		
Temperature Measuring (TEMP 1, TEMP 2)	4.1	4.4	4.6	0.123	0	99	1000	999	1000	999	1000	Linear characteristic
Memosens Interface (1) (MS and MEAS)	4.6	113	130	3.62	0	96	2.8	996	11	996	22	Linear characteristic
USB - Interface (2) (Micro USB-B)												Um = 250 V

(1) or for connection of Memosens measuring cable and sensors see BVS 09 ATEX E 083 E or BVS 04 ATEX E 121 X or IECEx BVS 11.0052X, see also operating manual for sensors supported by Liquiline To Go Ex CYM291

(2) Only for use outside of an explosion hazardous area, no sensor circuit should lead in an explosion hazardous area.

The Temperature Measuring Loop, the Memosens Interfaces and the USB-Interface are galvanically connected.

Weitergabe sowie Vervielfältigung dieses Dokuments, Verwertung und Mitteilung seines Inhalts sind verboten, soweit nicht ausdrücklich erlaubt.

# Control Drawing

5	6	7	8																
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 35%;"><b>Batteries</b></td> <td style="width: 25%;"><b>Temperature Class</b></td> <td style="width: 40%;"><b>Ambient Temperature Range</b></td> </tr> <tr> <td>4 x Duracell MN1500</td> <td>T4</td> <td>-10 °C ≤ Ta ≤ +40 °C</td> </tr> <tr> <td>4 x Energizer E91</td> <td>T3</td> <td>-10 °C ≤ Ta ≤ +50 °C</td> </tr> <tr> <td>4 x Power One 4106</td> <td>T3</td> <td>-10 °C ≤ Ta ≤ +50 °C</td> </tr> <tr> <td>4 x Panasonic Pro Power LR6</td> <td>T3</td> <td>-10 °C ≤ Ta ≤ +50 °C</td> </tr> </table> <p style="margin-top: 10px;">             - WARNING- USE ONLY DURACELL MN1500 or ENERGIZER E91 or POWER ONE 4106 or PANASONIC PRO POWER LR6 BATTERIES              - WARNING- DO NOT REPLACE BATTERY WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT              - Only batteries of the same model, same manufacturer and same nominal capacity should be used.              - New batteries should not be mixed with old batteries.              - WARNING- SUBSTITUTION OF COMPONENTS MAY IMPAIR INTRINSIC SAFETY         </p>				<b>Batteries</b>	<b>Temperature Class</b>	<b>Ambient Temperature Range</b>	4 x Duracell MN1500	T4	-10 °C ≤ Ta ≤ +40 °C	4 x Energizer E91	T3	-10 °C ≤ Ta ≤ +50 °C	4 x Power One 4106	T3	-10 °C ≤ Ta ≤ +50 °C	4 x Panasonic Pro Power LR6	T3	-10 °C ≤ Ta ≤ +50 °C	A
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				B															
				C															
				D															
				E															
<p>Label (rear)</p>																			
<b>ATEX/IECEX</b>		<b>Endress + Hauser</b>																	
Verteiler: FUL (2x)		Zul. Abweichungen für Maße ohne Toleranzangabe		Maßstab 1:1															
				Halbzeug Enclosure complete															
		Benennung																	
		CYM 291 Control drawing																	
		Zeichnungsnummer		Blatt															
		209.009-150		1															
				1 Bl.															
1 Zulassungsnummern		29.04.15	dam	[Signature]															
Nr. Änderungen		Datum	Bearb.	FBL KON															
5	6																		