CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **KEMA 03ATEX2530** Issue Number: **11**

(4) Product: **Modular Analyzing System Protos Type 3400 X*/*** and Protos II Type 4400X*/***

(5) Manufacturer: **Knick Elektronische Messgeräte GmbH & Co. KG**

(6) Address: **Beuckestrasse 22, 14163 Berlin, Germany**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 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 confidential test report number NL/DEK/ExTR11.0058/05.

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

EN IEC 60079-0:2018 **EN 60079-7 : 2015 + A1 : 2018** **EN 60079-11 : 2012**
EN 60079-18 : 2015 + A1 : 2017 **EN 60079-31 : 2014**

except in respect of those requirements listed at item 18 of the Schedule.

(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 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 product shall include the following:

II 2(1) G	**Ex eb ib mb [ia Ga] IIC T4 Gb**
II 3(1) G	**Ex ec ib mb [ia Ga] IIC T4 Gc**
II 2(1) D	**Ex ib tb [ia Da] IIIC T70 °C Db**

Date of certification: 28 July 2022

DEKRA Certification B.V.

R. Schuller
Certification Manager

PRODUCTS RvA C 001

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem P.O. Box 5185, 6802 ED Arnhem The Netherlands
T +31 88 96 83000 F +31 88 96 83100 www.dekra-product-safety.com Registered Arnhem 09085396

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate KEMA 03ATEX2530** Issue No. **11**

(15) **Description**

The Modular Analyzing System Protos and Protos II Type *400 X*/*** is intended to record and process data from electrochemical fluid analysis. By using exchangeable measuring and interface modules, the system can be configured to provide the required measuring and control functions. The complete Protos and Protos II *400 X*/*** system is housed in a polished or polyester-coated waterproof and dust-tight stainless steel enclosure and provides a degree of ingress protection IP65 in accordance with EN IEC 60079-0 and EN 60529 as well as Type 4X in accordance with NEMA 250.

It consists of the BASE module including the power supply and the FRONT module as door, and provides space for the installation of up to three measuring and interface modules as listed in Annex 1 to Report NL/DEK/ExTR11.0058/05.
The frontside of the door Protos and Protos II FRONT *400 X*-01* holds the keypad and the LC display, the backside of the door provides a ZU1080-P-X-…./SmartMedia memory card connector.

The door Protos and Protos II FRONT *400 X*-01* may be opened for a short time in order to change the ZU1080-P-X-…./SmartMedia memory card.

Ambient temperature range: -20 °C to +50 °C.

The maximum surface temperature of the housing T70 °C is based on a maximum ambient temperature of +50 °C.

Electrical data

See Annex 1 to Report NL/DEK/ExTR11.0058/05.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. NL/DEK/ExTR11.0058/05.

(17) **Specific conditions of use**

None.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. NL/DEK/ExTR11.0058/05.

(13) # SCHEDULE

(14) **to EU-Type Examination Certificate KEMA 03ATEX2530** Issue No. **11**

(20) **Certificate history**

Issue 1	-	203675100	initial certificate
Issue 2	-	207155100	revision to initial certificate
Issue 3	-	209795000	new modules OXY 3400X-067 and FIU 3400X-140
Issue 4	-	213309200	new module FIU 3400X-140-2
Issue 5	-	213597600	new module MS 3400X-16*
Issue 6	-	213436200	now based on NL/DEK/ExTR11.0058/00 and Cat 3 new
Issue 7	-	219438900	standards upgrade, change type of protection Ex nA nC to Ex ec mb
Issue 8	-	222309900	new modules for Protos II 4400X*/***
Issue 9	-	223715300	assessed per EN IEC 60079-0 : 2018 and change of the construction
Issue 10	-	224872600	minor constructional changes
Issue 11	-	224409700	new module MS 4400X-18*

Übersetzung, Originalsprache: Englisch

BESCHEINIGUNG

(1) EU-Baumusterprüfung

(2) **Geräte oder Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen – Richtlinie 2014/34/EU**

(3) EU-Baumusterprüfbescheinigung Nummer: **KEMA 03ATEX2530** Ausgabe Nr.: **11**

(4) Produkt: **Modulares Analysenmeßsystem Protos Typ 3400 X*/*** und Protos II Typ 4400X*/***

(5) Hersteller: **Knick Elektronische Messgeräte GmbH & Co. KG**

(6) Anschrift: **Beuckestrasse 22, 14163 Berlin, Deutschland**

(7) Dieses Produkt sowie die verschiedenen zulässigen Ausführungen ist in der Anlage zu dieser EU-Baumusterprüfbescheinigung und in den zugehörigen Unterlagen festgelegt.

(8) DEKRA Certification B.V. bescheinigt als benannte Stelle Nr. 0344 nach Artikel 17 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014, für dieses Produkt die Erfüllung der wesentlichen Sicherheits- und Gesundheitsanforderungen für den Entwurf und den Bau von Produkten zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind im vertraulichen Prüfbericht Nr. NL/DEK/ExTR11.0058/05 festgelegt worden.

(9) Die wesentlichen Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit:

EN IEC 60079-0:2018
EN 60079-7 : 2015 + A1 : 2018
EN 60079-11 : 2012
EN 60079-18 : 2015 + A1 : 2017
EN 60079-31 : 2014

außer in Bezug auf die in Punkt 18 der Anlage dargelegten Anforderungen.

(10) Falls das Zeichen “X” hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die Anwendung des Produkts in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf den Entwurf und den Bau des spezifizierten Produkts. Weitere Anforderungen der Richtlinie gelten für das Herstellungsverfahren und die Lieferung dieses Produkts. Diese sind von vorliegender Bescheinigung nicht abgedeckt.

(12) Die Kennzeichnung des Produkts umfasst Folgendes:

II 2(1) G **Ex eb ib mb [ia Ga] IIC T4 Gb**
II 3(1) G **Ex ec ib mb [ia Ga] IIC T4 Gc**
II 2(1) D **Ex ib tb [ia Da] IIIC T70 °C Db**

Datum der Bescheinigung: 28. Juli 2022

DEKRA Certification B.V.

R. Schuller
Certification Manager

PRODUCTS RvA C 001

DEKRA Certification B.V. Meander 1051, 6825 MJ Arnhem Postfach 5185, 6802 ED Arnhem Niederlande
T +31 88 96 83000 F +31 88 96 83100 www.dekra-product-safety.com Registriert Arnhem 09085396

(13) # ANLAGE

(14) **zur EU-Baumusterprüfbescheinigung KEMA 03ATEX2530** Ausgabe Nr. **11**

(15) **Beschreibung**

Das modular aufgebaute Analysenmesssystem Protos und Protos II Typ *400 X*/*** dient zum Erfassen und Verarbeiten von Daten der elektrochemischen Flüssigkeitsanalyse. Das System kann durch auswechselbare Mess- und Schnittstellenmodule den verschiedenen Mess- und Steueraufgaben angepasst werden.
Das gesamte Protos und Protos II *400 X*/*** System ist in ein poliertes oder mit Polyester beschichtetes wasser- und staubdichtes Edelstahlgehäuse eingebaut und gewährleistet einen Schutzgrad IP65 nach EN 60079-0 und EN 60529 sowie Typ 4X nach NEMA 250.

Es besteht aus dem BASE Modul inklusive der Stromversorgung und dem FRONT Modul als Tür, und bietet Platz zum Montieren von bis zu drei Mess- und Schnittstellenmodulen wie in dem Anhang „Annex 1 to Report NL/DEK/ExTR11.0058/05“ in Englischer Sprache aufgeführt ist.
Auf der Vorderseite der Tür Protos und Protos II FRONT *400 X*-01* befindet sich die Eingabetastatur und ein LC-Grafik-Display, innenseitig ist eine Steckvorrichtung für eine ZU1080-P-X-…./SmartMedia Speicherkarte vorhanden.

Die Tür Protos und Protos II FRONT *400 X*-01* darf kurzzeitig zum Wechsel der ZU1080-P-X-…./SmartMedia Speicherkarte geöffnet werden.

Umgebungstemperaturbereich: -20 °C bis +50 °C.

Die maximale Oberflächentemperatur des Gehäuses T70 °C ist auf eine maximale Umgebungstemperatur von +50 °C basiert.

Elektrische Daten

Siehe Anhang „Annex 1 to report NL/DEK/ExTR11.0058/05“ in Englischer Sprache.

Errichtungshinweise

Die Betriebsanleitung des Herstellers ist genau zu befolgen, um einen sicheren Betrieb zu gewährleisten.

(16) **Prüfbericht Nummer**

Nr. NL/DEK/ExTR11.0058/05.

(17) **Besondere Bedingungen**

Keine.

(18) **Wesentliche Sicherheits- und Gesundheitsanforderungen**

Von den Normen unter (9) abgedeckt.

(19) **Prüfungsunterlagen**

Wie erwähnt in Prüfbericht Nr. NL/DEK/ExTR11.0058/05.

(13) # ANLAGE

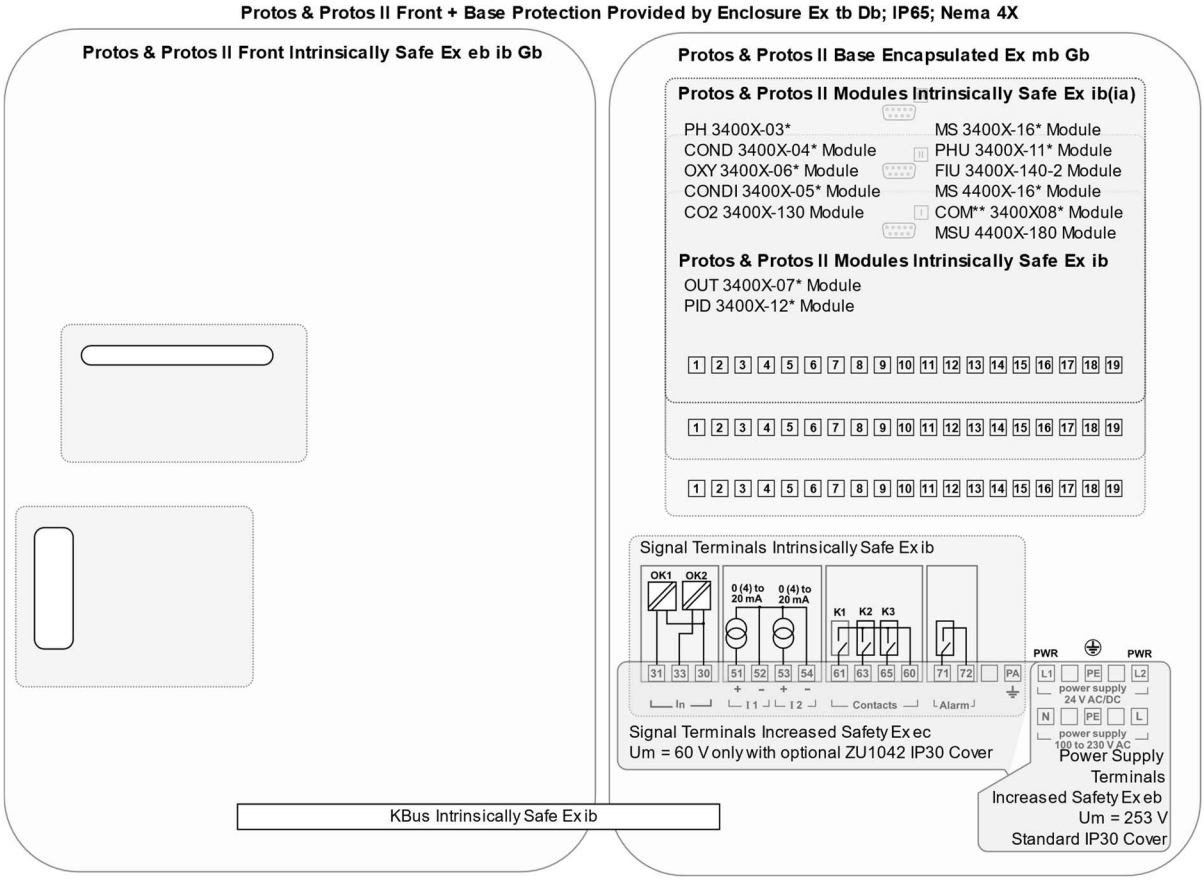
(14) **zur EU-Baumusterprüfbescheinigung KEMA 03ATEX2530** Ausgabe Nr. **11**

(20) **Bescheinungsübersicht**

Ausgabe Nr. 1	-	203675100	Erstbescheinigung
Ausgabe Nr. 2	-	207155100	Revision zur Erstbescheinigung
Ausgabe Nr. 3	-	209795000	Neue Module OXY 3400X-067 und FIU 3400X-140
Ausgabe Nr. 4	-	213309200	Neues Modul FIU 3400X-140-2
Ausgabe Nr. 5	-	213597600	Neues Modul MS 3400X-16*
Ausgabe Nr. 6	-	213436200	Jetzt basiert auf NL/DEK/ExTR11.0058/00 und Kat 3 neu
Ausgabe Nr. 7	-	219438900	Normenänderung, Änderung der Zündschutzart Ex nA nC nach Ex ec mb
Ausgabe Nr. 8	-	222309900	Neue Module für Protos II 4400X*/***
Ausgabe Nr. 9	-	223715300	Beurteilung nach EN IEC 60079-0 : 2018 und Änderung der Konstruktion
Ausgabe Nr. 10	-	224872600	kleine Änderungen der Konstruktion
Ausgabe Nr. 11	-	224409700	Neues Modul MSU 4400X-18*

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

System overview



Throughout this document, a comma "," is used as the decimal separator.

Type designation

Module:	Description:	Type of protection:	
		IIC T4	IIIC T70°C
BASE 3400 X*/*** or BASE 4400 X*/***	Enclosure base Ex eb or tb Exchangeable power terminals Ex eb with encapsulated fuse Ex mb 100-230 V ac or 24 V ac/dc power supply with Ex i barriers and separations Ex mb Signal terminals Ex ib or ec (Ex ec only when covered by terminal cover ZU1042) Knick proprietary KBus Ex ib	Ex eb ib mb Gb or Ex ec ib mb Gc	Ex ib tb Db
FRONT 3400 X*-01*	Front door Ex eb or tb Keypad, Knick proprietary memory card interface and link from power supply Ex ib	Ex eb ib Gb	Ex ib tb Db
FRONT 4400 X*-01*	Front door Ex eb or tb Keypad, Knick proprietary memory card interface and link from power supply Ex ib	Ex eb ib Gb	Ex ib tb Db
PH 3400X-03*	pH-Measurement Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

Module:	Description:	Type of protection:	
		IIC T4	IIIC T70°C
COND 3400X-04*	Conductivity Measurement Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
OXY 3400X-06*	Oxygen Concentration Measurement Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
PHU 3400X-11*	Unical 9000 X Communication Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
CONDI 3400X-05*	Inductive Conductivity Measurement Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
OUT 3400X-07*	Output Module (Analog and Switch Outputs) Knick proprietary KBus Ex ib Signal terminals Ex ib	Ex ib Gb	Ex ib Db
PID 3400X-12*	PID Controller Knick proprietary KBus Ex ib Signal terminals Ex ib	Ex ib Gb	Ex ib Db
COM** 3400X-08*	Interface (Profibus-PA and Foundation Fieldbus) Knick proprietary KBus Ex ib Signal terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
CO2 3400X-130	Carbon dioxide Concentration Measurement Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
FIU 3400X-140-2	Tripple RS 485 Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
MS 3400X-16* or MS 4400X-16*	Memosens Module Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db
MSU 4400X-18*	Memosens Module with optional Unical 9000 X supply and communication Knick proprietary KBus Ex ib Sensor terminals Ex ia	Ex ib [ia Ga] Gb	Ex ib [ia Da] Db

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

Electrical data

BASE 3400 X*/*** and BASE 4400 X*/***:

Power supply circuit (terminals KL L, KL N, KL PE)	In type of protection increased safety Ex eb, with the following electrical data: 100 ... 230 Vac (-15%, +10%), 15 VA, 48 ... 62 Hz Internally fused 315 mA/T U_m = 253 V					
Power supply circuit (terminals KL L1, KL L2, KL PE)	In type of protection increased safety Ex eb, with the following electrical data: 24 V ac (-15%, +10%), 15 VA, 48 ... 62 Hz or 24 V dc (-15%, +20%), 8 W Internally fused 630 mA/T U_m = 253 V					
	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to intrinsically safe circuits, with the following maximum values per circuit:					
	U_i (V)	I_i (mA)	P_i (W)	C_i (nF)	L_i (mH)	
OK-inputs OK1 and OK2 (KL30, KL31 and KL30, KL33)	30	any	any	0	0	R_i = 3 kOhm
Switch circuits K1, K2, K3, K4 (KL60, KL61, KL63, KL65 and KL71, KL72)	30	500	10	0	0	
	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (nF)	L_o (mH)	
Output circuits I1 and I2 (KL51, KL52 and KL53, KL54)	17	84	357	243	3	Linear characteristic
	In type of protection increased safety Ex ec, only for connection to SELV/PELV circuits, with the following maximum values per circuit:					
OK-inputs OK1 and OK2 (KL30, KL31 and KL30, KL33 covered by terminal cover ZU1042)	30 V U_m = 60 V					
Switch circuits K1, K2, K3, K4 (KL60, KL61, KL63, KL65 and KL71, KL72 covered by terminal cover ZU1042)	30 V, 500 mA, 10 W U_m = 60 V					
Output circuits I1 and I2 (KL51, KL52 and KL53, KL54 covered by terminal cover ZU1042)	U_m = 60 V					
Knick proprietary K-Bus (D-SUB and modular connector)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Knick modules as listed in this attachment.					
The power supply circuit is infallibly galvanically separated from all other circuits up to a peak voltage of 375 V. The switch circuits K1, K2, K3, the switch circuit K4, the OK-input circuits OK1, OK2, the output circuits I1, I2 and the power supply, KBus are infallibly galvanically separated from each other up to a peak voltage of 60 V. The switch circuits K1, K2 and K3 are galvanically connected. The OK-inputs OK1 and OK2 are galvanically connected. The output circuits I1 and I2 are galvanically connected.						

FRONT 3400 X*/***:

KBus modular connector	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Knick module BASE *400 X*/***
SmartMedia-Card (SmartMedia-Card Slot)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to SmartMedia-Card Type ZU-0543

FRONT 4400 X*/***:

KBus modular connector	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Knick module BASE *400 X*/***
ZU1080-P-X-…. connector (for memory card)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to Knick memory card Type ZU1080-P-X-….

PH 3400X-03* (exceptions see below):

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
pH-Measuring circuit (KL2, KL8, KL12, KL13, KL16)	10	20	25	1,5	1	Linear characteristic
DF-supply circuit (KL14, KL15)	10	14	35	1,26	1,2	Linear characteristic
Temperature measurement circuit (KL17, KL18, KL19)	10	10	12	1,2	1	Linear characteristic
pH / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL16, KL 17, KL18, KL19)	10	30	38	1,1	1	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

COND 3400X-04*:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Conductivity measurement circuit (KL1, KL2, KL3, KL4, KL5)	10	112	139	1	1	Linear characteristic
Temperature measurement circuit (KL16, KL17, KL18, KL19)	10	10	12	1,26	1	Linear characteristic
Conductivity / Temperature measurement circuit (KL1, KL2, KL3, KL4, KL5, KL16, KL17, KL18, KL19)	10	122	153	0,858	1	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

PH 3400X-035, PH 3400X-036 and CO2 3400X-130:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
pH measurement circuit (KL2, KL8, KL12, KL15)	12	1,6	2,9	0,947	1	Linear characteristic
pH/ISFET measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15)	12	4,3	7,8	0,933	1	Linear characteristic
Temperature measurement circuit (KL18, KL19)	7,2	6,6	11,9	3	1	Linear characteristic
pH / Temperature measurement circuit (KL2, KL8, KL12, KL15, KL18, KL19)	12	8,2	14,8	0,923	1	Linear characteristic
pH / ISFET / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15, KL18, KL19)	12	10,9	19,7	0,909	1	Linear characteristic
pH / ISM / Temperature measurement circuit (KL2, KL8, KL12, KL15, KL16, KL17, KL18, KL19)	12	23,4	42,2	0,911	1	Linear characteristic
pH / ISFET / ISM / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15, KL16, KL17,KL18, KL19)	12	26,1	47	0,909	1	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

OXY 3400X-06* (exceptions see below):

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Oxygen measurement circuit (KL2, KL8, KL13, KL14, KL15, KL16)	10	10	13	1,5	1	Linear characteristic
Temperature measurement circuit (KL17, KL18)	10	1	2	1,38	1	Linear characteristic
Oxygen / Temperature measurement circuit (KL2, KL8, KL13, KL14, KL15, KL16, KL17, KL18)	10	11	14	1,38	1	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

OXY 3400X-065 and OXY 3400X-066:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Oxygen measurement circuit (KL2, KL8, KL12, KL13)	10	7,5	10	1,5	1	Linear characteristic
Temperature measurement circuit (KL16, KL17)	5	1	1,5	4,4	5	Linear characteristic
Oxygen / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL16, KL17)	10	9	12	1,4	1	Linear characteristic
Oxygen / ISM / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15, KL16, KL17)	10	19	24	1,4	1	Linear characteristic
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to intrinsically safe circuits, with the following maximum values:					
	U_i (V)	I_i (mA)	P_i (mW)	C_i (nF)	L_i (mH)	
0(4) – 20 mA measurement circuit (KL18, KL19)	30	125	1500	12	0	
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

OXY 3400X-067:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Oxygen measurement circuit (KL2, KL8, KL12, KL13, KL15)	10	12	16	1,5	1	Linear characteristic
Temperature measurement circuit (KL13, KL14)	5	1	1,5	4,4	5	Linear characteristic
Oxygen / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15)	10	13	17	1,4	1	Linear characteristic
Oxygen / ISM / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15, KL16, KL17)	10	33	42	1,3	1	Linear characteristic

OXY 3400X-067 (continued):

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to intrinsically safe circuits, with the following maximum values:					
	U_i (V)	I_i (mA)	P_i (mW)	C_i (nF)	L_i (mH)	
0(4) – 20 mA measurement circuit (KL18, KL19)	30	125	1500	12	0	
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

PHU 3400X-11*:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
pH measurement circuit (KL2, KL8, KL12)	10	20	25	1,5	1	Linear characteristic
Temperature measurement circuit (KL13, KL14, KL15)	5	10	12	6	1	Linear characteristic
pH / Temperature measurement circuit (KL2, KL8, KL12, KL13, KL14, KL15)	10	29	47	1,4	1	Linear characteristic
Supply circuit (KL18, KL19)	7,5	140	297	1,68	1	Linear characteristic
Interface circuit (KL16, KL17, KL18)	5	257	322	3,5	1,2	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected. The supply circuit and the interface circuit are galvanically connected. The measurement circuits and supply circuit / interface circuit and KBus are infallibly galvanically separated from each other up to a peak voltage of 60 V.						

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

CONDI 3400X-05*:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Conductivity measurement circuit (KL1 … KL7)	7	45	26	1,4	12	Linear characteristic
Temperature measurement circuit (KL16, KL17, KL18, KL19)	5	9,1	12	3,26	16	Linear characteristic
Conductivity / Temperature measurement circuit (KL1 … KL7, KL16 ... KL19)	7	54,1	38	1,05	10	Linear characteristic
	Suitable for connection to the following sensors					
	Type:			Certificate number:		
	SE 655X, SE 656X			DMT 00 ATEX E 088 X		
	CLS 50-G...			DMT 99 ATEX E 075 X		
	ISC40S-...			KEMA 00ATEX1067 X		
	871EC-...			KEMA 00ATEX1160 X		
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The measurement circuits are galvanically connected and are infallibly galvanically separated from and from the KBus up to a peak voltage of 60 V.						

OUT 3400X-07* and PID 3400X-12*:

	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to intrinsically safe circuits, with the following maximum values per circuit:					
	U_i (V)	I_i (mA)	P_i (mW)	C_i (nF)	L_i (µH)	
Output circuits OUT 3400X-07*: I3 and I4 PID 3400X-12*: IV1 and IV2 (KL7, KL8 and KL9, KL10)	30	100	800	12	0	
Switch circuits OUT 3400X-07*: K5 ... K8 PID 3400X-12*: KV1,KV2, K9,K10 (KL 12, KL13; KL14, KL15; KL16, KL17; KL18, KL19)	30	100	800	12	0	
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The output circuits are galvanically connected. The switching circuits are galvanically connected. The switch circuits and the output circuits are infallibly galvanically separated from each other and from and from the KBus up to a peak voltage of 60 V.						

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

COM 3400X-08*:

	In type of protection intrinsic safety Ex ia IIC/IIB, Ex ib IIC/IIB or Ex ia IIIC/IIIB, only for connection to a certified intrinsically safe circuit (e.g. a FISCO power supply), with the following maximum values:					
	U_i (V)	I_i (mA)	P_i (W)	C_i (nF)	L_i (µH)	
Bus connection (KL12, KL13, KL14)	17,5	380	5,32	5	10	FISCO Power Supply
	24	250	1,5	5	10	Linear Barrier
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X* / ***					
The bus connection is infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

FIU 3400X-140-2:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Supply / Interface circuit Memosens II and Memosens I (KL6, KL7, KL8, KL9, KL10 and KL11, KL12, KL13, KL14, KL15)	5	123	154	97,4	2	Linear characteristic
				C_i (µF)	L_i (µH)	
				2,6	0	
	Suitable for connection of Memosens measuring cable type CA/MS-***X** (BVS 09 ATEX E 083 X, BVS 15 ATEX E 141 X and IECEx BVS 15.0114X) or for connection of Memosens measuring cable type CYK 10-G**1 (BVS 04 ATEX E 121 X and IECEx BVS 11.0052X)					
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Supply circuit Unical / Uniclean (KL18, KL19)	7,5	115	216	10,9	2	Linear characteristic
	Suitable for connection to Retractable Probe Control Unit Type Unical 9000-X… or Type Uniclean 900-X… (KEMA 04ATEX1036 and IECEx DEK 22.0022).					
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Interface circuit Unical / Uniclean (KL16, KL17, KL18)	5	118	148	100	2	Linear characteristic
	Suitable for connection to Retractable Probe Control Unit Type Unical 9000-X… or Type Uniclean 900-X… (KEMA 04ATEX1036 and IECEx DEK 22.0022).					
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The supply and interface circuits are galvanically connected and are infallibly galvanically separated from the KBus up to a peak voltage of 60 V.						

MS 3400X-16* and MS 4400X-16*:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Supply / Interface circuit Memosens (KL1, KL2, KL3, KL4, KL5)	5	127	159	96,2	2	Linear characteristic
				C_i (µF)	L_i (µH)	
				3,8	2	
	Suitable for connection of Memosens measuring cable type CA/MS-***X** (BVS 09 ATEX E 083 X, BVS 15 ATEX E 141 X and IECEx BVS 15.0114X) or for connection of Memosens measuring cable type CYK 10-G**1 (BVS 04 ATEX E 121 X and IECEx BVS 11.0052X)					
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Supply / Interface circuit ISM (KL15, KL17)	8,3	9,3	20	7,2	400	Linear characteristic
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to intrinsically safe circuits, with the following maximum values:					
	U_i (V)	I_i (mA)	P_i (mW)	C_i (nF)	L_i (mH)	
Current I-Input (KL7, KL9)	30	100	750	12	0	Linear characteristic
OK-input (KL11, KL13)	30	any	any	0	0	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The supply and interface circuits are galvanically connected and are infallibly galvanically separated from and the KBus up to a peak voltage of 60 V.						

Attachment to: **Certificate of Conformity IECEx DEK 11.0054**
EU-Type Examination Certificate KEMA 03ATEX2530, Issue 11
Report NL/DEK/ExTR11.0058/05

MSU 4400X-18*:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Supply / Interface circuit Memosens (KL1, KL2, KL3, KL4, KL5) (KL6, KL7, KL8, KL9, KL10) (KL13, KL14, KL15, KL16, KL17)	5,1	130	166	81	2	Linear characteristic
				C_i (µF)	L_i (µH)	
				3,5	95	
	Suitable for connection of Memosens measuring cable type CA/MS-***X** (BVS 09 ATEX E 083 X, BVS 15 ATEX E 141 X and IECEx BVS 15.0114X) or for connection of Memosens measuring cable type CYK 10-G**1 (BVS 04 ATEX E 121 X and IECEx BVS 11.0052X)					
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U_o (V)	I_o (mA)	P_o (mW)	C_o (µF)	L_o (mH)	
Supply / Interface circuit Unical / Uniclean (KL11, KL17)	8,5	125	266	3,5	2	Linear characteristic
	Suitable for connection to Retractable Probe Control Unit Type Unical 9000-X… or Type Uniclean 900-X… (KEMA 04ATEX1036 and IECEx DEK 22.0022).					
Interface circuit Unical / Uniclean (KL14, KL15, KL16, KL17)	5,1	130	166	81	2	Linear characteristic
	Suitable for connection to Retractable Probe Control Unit Type Unical 9000-X… or Type Uniclean 900-X… (KEMA 04ATEX1036 and IECEx DEK 22.0022).					
	NOTE: If the Unical circuit is in use, Memosens on terminals 13 to 17 is not allowed					
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, only for connection to intrinsically safe circuits, with the following maximum values:					
	U_i (V)	I_i (mA)	P_i (mW)	C_i (nF)	L_i (mH)	
Current I-Input (KL18, KL19)	30	100	750	11	0	Linear characteristic
KBus (ST1)	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for connection to the certified Measuring System Type *400 X*/***					
The supply and interface circuits are galvanically connected and are infallibly galvanically separated from and the KBus up to a peak voltage of 60 V.						