

Netherlands

IECEx Certificate of Conformity

	INTERNATIONAL E IEC Certification S for rules and detail	LECTROTECHNICAL COMMISSION System for Explosive Atmospheres Is of the IECEx Scheme visit www.iecex.com	I
Certificate No.:	IECEx DEK 11.0054	Page 1 of 4	Certificate history:
Status:	Current	Issue No: 4	Issue 3 (2019-06-21) Issue 2 (2018-10-05)
Date of Issue:	2021-04-09		Issue 1 (2017-12-11) Issue 0 (2012-08-30)
Applicant:	Knick Elektronische Messgeräte G Beuckestrasse 22 14163 Berlin Germany	GmbH & Co. KG	
Equipment:	Modular Analyzing System Protos	Type 3400 X•/••• and Protos II Type 4400X•/•••	
Optional accessory	:		
Type of Protection:	Ex e, Ex i, Ex m, Ex t		
Marking:	Ex eb ib mb [ia Ga] IIC T4 Gb, Ex ec ib mb [ia Ga] IIC T4 Gc, Ex ib tb [ia Da] IIIC T70 °C Db		
Approved for issue Certification Body:	on behalf of the IECEx	R. Schuller	
Position:		Certification Manager	
Signature: (for printed version)			
Date:			
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Date of issue:	2021-04-09	Issue No: 4							
Manufacturer:	Anufacturer: Knick Elektronische Messgeräte GmbH & Co. KG Beuckestrasse 22 14163 Berlin Germany								
Additional manufacturing locations:									
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 equipment and an to comply with the foll	STANDARDS : The equipment 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 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requiremen	ts							
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsi	c safety "i"							
IEC 60079-18:2017 Edition:4.1	Explosive atmospheres - Part 18: Protection by encapsulation "m'								
IEC 60079-31:2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"								
IEC 60079-7:2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increase	ed safety "e"							
	This Certificate does not indicate compliance with safety and other than those expressly included in the Standar	performance requirements rds 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/ExTR11.0058/04

Quality Assessment Report:

DE/TUN/QAR06.0016/10



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

2021-04-09

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 IEC 60079-0 and IEC 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 the attachment.

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 attachment.

SPECIFIC CONDITIONS OF USE: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above) Minor constructional changes

2021-04-09

Annex:

Date of issue:

224872600-ExTR11.0058.04-Attachment.pdf



System overview

Protos & Protos II Front + Base Protection Provided by Enclosure Ex tb Db; IP65; Nema 4X



Type designation

Madula	Description:	Type of protection:			
Module.		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		



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



Electrical data

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

	In type of protection increased safety Ex eb, with the following electrical							
Power supply circuit	data:	20 \/aa	(150/)	100/) 1/		62 11-		
(terminals KL L, KL N, KL PE)	Internall	su vac (v fused	(-10%, + 315 mΔ/	10%), It T) VA, 40	02 HZ		
	$U_m = 25$	3 V		•				
	In type of	of protec	tion incre	eased sa	afety Ex	eb, with the following electrical		
	data:				,	, 3		
Power supply circuit	24 V ac	(-15%, +	<mark>⊦10%)</mark> , 1	5 VA, 48	3 62 H	lz		
(terminals KL L1, KL L2, KL PE)	or 24 V	or 24 V dc (-15%, +20%), 8 W						
	Internal	Internally fused 630 mA/T						
	Um = 25	3 V						
	In type of	of protec	tion intri	nsic safe	ty Ex ib	IIC or Ex ib IIIC, only for		
	connect	ion to inf	trinsically	y safe cir	cuits, wi	th the following maximum		
	values p	per circui	t:			-		
	Ui		Pi	Ci	Li			
	(V)	(mA)	(W)	(nF)	(mH)			
OK-inputs OK1 and OK2	30	any	any	0	0	R _i = 3 kOhm		
(KL30, KL31 and KL30, KL33)								
KI 60 KI 61 KI 63 KI 65 and	30	500	10	0	0			
KI 71 KI 72)	50	500			0			
In type of protection intrinsic safety Fx ib IIC or Fx ib IIIC								
	with the following maximum values:							
	U₀	lo	P₀	Co	Lo			
	(V)	(mA)	(mW)	(nF)	(mH)			
Output circuits I1 and I2 (KL51, KL52 and KL53, KL54)	17	84	357	243	3	Linear characteristic		
	The sum	nmation	of currer	nts and v	oltages	inside the device has been		
	evaluate	ed and is	s within th	ne allowe	ed limits.			
	In type of	of protec	tion incre	eased sa	afety Ex	ec only for connection to		
	SELV/P	ELV circ	uits, with	the follo	owing m	aximum values per circuit:		
OK-inputs OK1 and OK2	20.1/							
(KL30, KL31 and KL30, KL33	$U_{m} = 60$	V						
covered by terminal cover ZU1042)		•						
Switch circuits K1, K2, K3, K4		0 0 - 1	0.144					
(KL00, KL01, KL03, KL05 and KL71, KL72 covered by terminal	30 v, 50	JU MA, T	0 00					
cover 711042)	0m - 00	v						
Output circuits 11 and 12								
(KL51, KL52 and KL53, KL54	U _m = 60	V						
covered by terminal cover ZU1042)								
Kaiakana ariatana K. Dua	lin to un a	- f f	4: : 4:-					
Knick proprietary K-Bus	In type o	of protection to the	tion intrii	ISIC Sale		IIC OF EX ID IIIC, ONLY FOR		
The power supply circuit is infallibly of	alvanica	llv separ	e certine ated fror	n all oth	er circuit	as listed in this attachment.		
375 V.	jaivanica	ny Separ		in an our	Si circuit	s up to a peak voltage of		
The switch circuits K1, K2, K3, the sv	witch circ	uit K4, th	ne OK-in	put circu	its OK1,	OK2, the output circuits I1, I2		
and the power supply, KBus are infal	libly galv	anically	separate	d from e	ach othe	er up to a peak voltage of 60 V.		
The switch circuits K1, K2 and K3 are	ə galvani	cally con	nected.	The OK-	inputs C)K1 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	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for
(SmartMedia-Card Slot)	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	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for
memory card)	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	with the following maximum values:						
	Uo	lo	Po	Co	Lo			
	(V)	(mA)	(mW)	(µF)	(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:						
	Uo	lo	Po	Co	Lo		
	(V)	(mA)	(mW)	(µF)	(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.							



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)	l₀ (mA)	P₀ (mW)	C₀ (µF)	L₀ (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:					
	U₀ (V)	l₀ (mA)	P₀ (mW)	C₀ (µF)	L₀ (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:

	1					
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:					
	U _o (V)	I _o (mA)	P₀ (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)	l _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} I_{o} P_{o} C_{o} L_{o} (V) (mA) (mW) (µF) (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			



Certificate of Conformity IECEx DEK 11.0054 Attachment to: EU-Type Examination Certificate KEMA 03ATEX2530, Issue 10 Report NL/DEK/ExTR11.0058/04

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 $ $ I _i $ $ P _i $ $ C _i $ $ L _i $ $									
	(V) (mA) (mW) (nF) (mH)									
0(4) – 20 mA measurement circuit (KL18, KL19)	30	125	1500	12	0					
KBus	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for									
(ST1)	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	with the following maximum values:								
	Uo Io Po Co Lo									
	(V)	(mA)	(mW)	(µF)	(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	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for									
(ST1)	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.



CONDI 3400X-05*:

	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC, with the following maximum values:							
	$ \begin{array}{ c c c c c } U_{o} & I_{o} & P_{o} & C_{o} & L_{o} \\ \hline (V) & (mA) & (mW) & (\mu F) & (mH) \\ \end{array} $							
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		
	7	54,1	38	10	Linear characteristic			
	Suitable for connection to the following sensors							
Conductivity / Temperature	Type: Certificate number:							
measurement circuit	SE 655X, SE 656X DMT 00 ATEX E 088 X							
(KL1 KL7, KL16 KL19)	CLS 50-	·G		DMT 99	ATEX E	E 075 X		
	ISC40S-			KEMA (00ATEX	1067 X		
	871EC			KEMA (00ATEX	1160 X		
KBus	In type of	of protec	tion intrii	nsic safe	ty Ex ib	IIC or Ex ib IIIC, only for		
(ST1)	connect	ion to the	e certifie	d Measu	ring Sys	tem 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:									
	(V)	(mA)	(mW)	(nF)	(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					
	The summation of currents and voltages inside the device has been evaluated and is within the allowed limits.									
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.										



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:								
	Ui li Pi Ci Li								
	(V) (mA) (W) (nF) (μH)								
Bus connection	17,5	380	5,32	5	10	FISCO Power Supply			
(KL12, KL13, KL14)	24	250	1,5	5	10	Linear Barrier			
KBus	In type of protection intrinsic safety Ex ib IIC or Ex ib IIIC, only for								
(ST1)	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	g maxim	um value	es:					
	Uo	lo	Po	Co	Lo				
	(V)	(mA)	(mW)	(µF)	(mH)				
	5	123	154	97,4	2	Linear characteristic			
				Ci	Li				
Supply / Interface circuit				(µF)	(µH)				
Memosens II and Memosens I				2,6	0				
(KL6, KL7, KL8, KL9, KL10 and	Suitable	for conr	nection o	f Memos	sens mea	asuring cable type			
KL11, KL12, KL13, KL14, KL15)	CA/MS-***X** (BVS 09 ATEX E 083 X)								
	or for co	onnectior	n of Mem	osens m	neasuring	g cable type CYK 10-G**1			
	(BVS 04	I ATEX E	E 121 X)						
	In type of	of protec	tion intrir	nsic safe	ty Ex ia	IIC or Ex ia IIIC, with the			
	following maximum values:								
	U₀	lo	P₀	Co	Lo				
	(V)	(mA)	(mW)	(µF)	(mH)				
Supply circuit Unical	7,5	115	216	10,9	2	Linear characteristic			
	Suitable for connection to Retractable Probe Control Unit Type								
(1210, 1210)	Unical 9000-X or Type Uniclean 900-X (KEMA 04ATEX1036).								
	In type of	of protec	tion intrir	nsic safe	ty Ex ia	IIC or Ex ia IIIC, with the			
	following	g maxim	um value	es:					
	U₀	lo	P₀	Co	Lo				
	(V)	(mA)	(mW)	(µF)	(mH)				
	5	118	148	100	2	Linear characteristic			
	Suitable for connection to Retractable Probe Control Unit Type								
	Unical 9	000-X	or Type	Uniclea	n 900-X.	(KEMA 04ATEX1036).			
KBus	In type of	of protec	tion intrir	nsic safe	ty Ex ib	IIC or Ex ib IIIC, only for			
(ST1)	connection to the certified Measuring System Type *400 X*/***								
The supply and interface circuits are	galvanica	ally conn	ected ar	nd are inf	fallibly ga	alvanically 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)	l₀ (mA)	P₀ (mW)	C₀ (µF)	L _o (mH)				
	5	127	159	96,2	2	Linear characteristic			
Supply / Interface circuit				C _i (µF)	L _i (µH)				
Memosens				3,8	2				
(KL1, KL2, KL3, KL4, KL5)	Suitable for connection of Memosens measuring cable type CA/MS-***X** (BVS 09 ATEX E 083 X)								
	or for connection of Memosens measuring cable type CYK 10-G**1 (BVS 04 ATEX E 121 X)								
	In type of protection intrinsic safety Ex ia IIC or Ex ia IIIC,								
			P.						
	(V)	(mA)	(mW)	(µF)	(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:								
	Ui	li	Pi	Ci	Li				
	(V)	(mA)	(mW)	(nF)	(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	In type of	of protec	tion intrir	nsic safe	ty Ex ib	IIC or Ex ib IIIC, only for			
(ST1)	connect	ion to the	e certifie	d Measu	ring Sys	tem 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.									