

Translation

(1) EC-Type Examination Certificate

(2) Equipment and protective systems intended for use
in potentially explosive atmospheres - Directive 94/9/EC

(3) No. of EC-Type Examination Certificate: **BVS 13 ATEX E 042 X**

(4) Equipment: **Terminal type ICS466x*.-****

(5) Manufacturer: **Mettler-Toledo (Changzhou) Measurement Technology Ltd.**

(6) Address: **111, West TaiHu Road, Xinbei District, Changzhou, Jiangsu 213125,
P. R. China**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this type examination certificate.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the Test and Assessment Report BVS PP 13.2122 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 General requirements
EN 60079-11:2012 Intrinsic Safety "I"

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

 **II 2G Ex ib IIC T4 Gb**
II 2D Ex ib IIIC T60°C Db IP65

DEKRA EXAM GmbH
Bochum, dated 28th June 2013

Signed: Hans-Christian Simanski

Certification body

Signed: Dr. Michael Wittler

Special services unit

- (13) Appendix to
- (14) **EC-Type Examination Certificate**
BVS 13 ATEX E 042 X
- (15) 15.1 Subject and type

Terminal type ICS466x*-**

Instead of the first * the letter "a" for the A/D converter type PDC-SG-EX1 respectively or the letter "d" for the Digital Scale board, which is fastened on the backplane as option board on the first place, will be included. Instead of the second * the letter "d" for Digital Scale board or "p" for CL Passive board installed or the numeral "0" for option place empty will be included. Instead of the third * the letter "C" for CL Active board or CL passive board installed or the numeral "0" for option place empty will be included.

15.2 Description

The terminal ICS466x*-** is a weighing indicator, located as intrinsically safe apparatus inside the hazardous area.

The communication with other devices is done via dedicated interfaces.

The electrical components of the terminals are fixed in a metal enclosure providing a degree of protection of IP65. In the front plate of the enclosure a keyboard and a display are mounted. Inside the enclosure a backplane, a main board, the display, up to three input/output modules and terminals for the connection of the external intrinsically safe circuits are fastened.

15.3 Parameters

15.3.1 Power supply circuits on Backplane

15.3.1.1 Input U1 (terminals J1.4 – J1.3)

Voltage	U_i	DC	8.7	V
Current	I_i		133	mA
Power	P_i		1.16	W

Effective capacitance C and effective inductance L depend on the values of apparatus connected to option board Digital Scale J2.5 – J2.3/4 and J3.6 – J3.4/5 and the used cable (length) between terminal and those apparatus.

internal capacitance	C_i		negligible	
internal inductance	L_i		negligible	

15.3.1.2 Input U2 (terminals J1.2 – J1.3)

Voltage	U_i	DC	12.6	V
Current	I_i		42	mA
Power	P_i		0.53	W

Effective capacitance C and effective inductance L depend on the values of apparatus connected to option board Digital Scale J2.6 – J2.3/4 and J3.3 – J3.4/5 and the used cable (length) between terminal and those apparatus.

15.3.1.3 Input U3 (terminals J1.1 – J1.3)

Voltage	U_i	DC	7.15	V
Current	I_i		107	mA
Power	P_i		0.77	W
internal capacitance	C_i		220	nF
internal inductance	L_i		negligible	

15.3.1.4	Input U4 (terminals J2.5 – J2.4/J2.2)					
	Voltage	U_i	DC	10.5	V	
	Current	I_i		74	mA	
	Power	P_i		0.78	W	
	internal capacitance	C_i		220	nF	
	internal inductance	L_i		negligible		
15.3.1.5	Input U5 (terminals J2.3 – J2.4/J2.2)					
	Voltage	U_i	DC	5.9	V	
	Current	I_i		240	mA	
	Power	P_i		1.41	W	
	internal capacitance	C_i		220	nF	
	internal inductance	L_i	negligible			
15.3.1.6	Input U6 (terminals J2.1 – J2.4/J2.2)					
	Voltage	U_i	DC	12.6	V	
	Current	I_i		92	mA	
	Power	P_i		1.16	W	
	internal capacitance	C_i		440	nF	
	internal inductance	L_i	negligible			
15.3.2	RS232 IS interface (connection J8 and J10) on Backplane					
15.3.2.1	Input lines (connection J8.2 – J8.1 and J10.2 – J10.1)					
	values for each circuit					
	Voltage	U_i	DC	± 10	V	
	internal capacitance	C_i	negligible			
	internal inductance	L_i	negligible			
15.3.2.2	Output lines (connection J8.3 – J8.1 and J10.3 – J10.1)					
	Voltage	U_o	DC	± 5.36	V	
	Current	I_o		± 18.1	mA	
	Power	P_o		24.2	mW	
	Max. external capacitance	C_o		100	nF	
	Max. external inductance	L_o		100	μ H	
15.3.3	Intrinsically safe interface circuits of option boards					
15.3.3.1	Option board CL Active (connection J2)					
	Voltage	U_o	DC	5.36	V	
	Current	I_o		74	mA	
	Power	P_o		397	mW	
	Max. external capacitance	C_o		600	nF	
	Max. external inductance	L_o		400	μ H	
15.3.3.2	Option board CL Passive (connection J4)					
	Voltage	U_i	DC	10	V	
	Current	I_i		300	mA	
	Power	P_i		500	mW	
	internal capacitance	C_i		110	nF	
	internal inductance	L_i	negligible			

15.3.3.3 Option board Digital Scale

15.3.3.3.1 Output U1 (connection J2.5 – J2.3/4 and J3.6 – J3.4/5), same circuit U1 as connected to terminals J1.4 – J1.3

Voltage	U_o	DC	8.7	V
Current	I_o		133	mA
Power	P_o		1.16	W

Max. external capacitance C_o and max. external inductance L_o depend on the values of power supply connected to Backplane terminals J1.4 – J1.3 and the used cable (length) between power supply and terminal.

15.3.3.3.2 Output U2 (connection J2.6 – J2.3/4 and J3.3 – J3.4/5) same circuit U2 as connected to terminals J1.2 – J1.3

Voltage	U_o	DC	12.6	V
Current	I_o		42	mA
Power	P_o		0.53	W

Max. external capacitance C_o and max. external inductance L_o depend on the values of power supply connected to Backplane terminals J1.2 – J1.3 and the used cable (length) between power supply and terminal.

15.3.3.3.3 Circuits CLTX (connection J2.2 – J2.3/4 and J3.2 – J3.4/5)

Voltage	U_o	DC	5.36	V
Current	I_o		30	mA
Power	P_o		40	mW
Max. external capacitance	C_o		100	nF
Max. external inductance	L_o		100	μ H

15.3.3.3.4 Circuits CLRX (connection J2.1 – J2.3/4 and J3.1 – J3.4/5)

Voltage	U_o	DC	5.36	V
Current	I_o		30	mA
Power	P_o		40	mW
Max. external capacitance	C_o		100	nF
Max. external inductance	L_o		100	μ H

15.3.3.4 Option board PDC-SG-Ex1 (connection J201)

Voltage	U_o	DC	5.36	V
Current	I_o		107	mA
Power	P_o		0.574	W
Max. external capacitance	C_o		200	nF
Max. external inductance	L_o		300	μ H

15.3.4 Ambient temperature range T_a -10 °C up to +40 °C

(16) Test and Assessment Report

BVS PP 13.2122 EG as of 28.06.2013

(17) Special conditions for safe use

17.1 The terminal shall only be used when electrostatic processes leading to propagating brush discharges are excluded.

17.2 Protect the keyboard membrane against ultraviolet radiation.

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
44809 Bochum, 28th June 2013
BVS-Schu/Mu A 20120648

A handwritten signature in blue ink, appearing to read "Linnsh".

Certification body

A handwritten signature in blue ink, appearing to read "W. Hel".

Special services unit