Translation

(1) # EC-Type Examination Certificate

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

(3) ## BVS 09 ATEX E 010

(4) **Equipment:** **Weighing terminal type IND560x-***

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

(6) **Address:** **111 West TaiHu Road, XinBei District**
ChangZhou, JiangSu, 213125, PRC

(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 09.2016 EG.

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

EN 60079-0:2006	General requirements	EN 61241-0:2006	General requirements
EN 60079-11:2007	Intrinsic safety 'i'	EN 61241-11:2006	Intrinsic safety 'iD'
EN 60079-28:2007	Optical radiation		

(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 2 G Ex ib IIC T4
II 2 D Ex ibD 21 IP65 T60°C
II 2 GD Ex op is IIC additionally for inside mounted Interface FO

DEKRA EXAM GmbH
Bochum, dated 12. March 2009

Signed: Simanski — Certification body

Signed: Dr. Eickhoff — Special services unit

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(13) Appendix to

(14) # EC-Type Examination Certificate

BVS 09 ATEX E 010

(15) 15.1 Subject and type

Weighing terminal type IND560x-*

Instead of the * in the complete denomination the word „HARSH" for the desk version or "PANEL" for the panel mount version will be included.

15.2 Description

The weighing terminal is used in potentially explosive atmospheres for input of parameters and in combination with weighing cells for recording and display of weight values.

The electrical components of the terminals are fixed in a metal enclosure (desk version type IND560x-HARSH) or an enclosure with a metallic front plate (panel mount version type IND560x-PANEL). In the front plate of the enclosure a keyboard and a display are mounted. For type IND560x-PANEL at the rear side of the enclosure terminals for the connection of the intrinsically safe circuits are fastened.

Inside the enclosure a main board, the display, one input/output module and a CL or FO interface are fastened.

For use of the terminal type IND560x-PANEL in Category 2D it is mounted in an enclosure meeting category 2D. In any case the sealing stated in the documentation is mounted between panel and enclosure.

15.3 Parameters

15.3.1 Power supply circuit (terminals Power supply)

15.3.1.1	Input P1 (terminals P1 – P2)				
	Voltage	Ui	DC	10.5	V
	Current	Ii		74	mA
	Power	Pi		0.78	W
	Internal capacitance	Ci		240	nF
	Internal inductance	Li		negligible	
15.3.1.2	Input P3 (terminals P3 – P4)				
	Voltage	Ui	DC	5.9	V
	Current	Ii		240	mA
	Power	Pi		1.41	W
	Internal capacitance	Ci		480	nF
	Internal inductance	Li		negligible	
15.3.1.3	Input P5 (terminals P5 – P4)				
	Voltage	Ui	DC	12.6	V
	Current	Ii		92	mA
	Leistung – power	Pi		1.16	W
	Internal capacitance	Ci		360	nF
	Internal inductance	Li		negligible	

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15.3.1.4	Input P6 (terminals P6 – P7)				
	Voltage	Ui	DC	8.7	V
	Current	Ii		133	mA
	Power	Pi		1.16	W
	Internal capacitance	Ci		130	nF
	Internal inductance	Li		negligible	
156.3.1.5	Input P8 (terminals P8 – P7)				
	Voltage	Ui	DC	12.6	V
	Current	Ii		42	mA
	Power	Pi		0.53	W
	Internal capacitance	Ci		negligible	
	Internal inductance	Li		negligible	
15.3.1.6	Input P9 (terminals P9 – P7)				
	Voltage	Ui	DC	7.15	V
	Current	Ii		107	mA
	Power	Pi		0.77	W
	Internal capacitance	Ci		240	nF
	Internal inductance	Li		negligible	
15.3.2	Analog loadcell circuits SA1 to SA7 (terminals Analog scale)				
	Voltage	Uo	DC	5.88	V
	Current	Io		133	mA
	Power	Po		0.68	W
	External capacitance	Co		0.2	µF
	External inductance	Lo		0.3	mH
15.3.3	Digital loadcell circuits SD1 to SD7 (– terminals Digital scale)				
15.3.3.1	Power supply output SD1 (terminals SD1 – SD3)				
	Voltage	Uo	DC	12.6	V
	Current	Io		42	mA
	Power	Po		0.53	W
	External capacitance Co and external inductance Lo depend on the power supply connected to input P8 (terminals P8 – P7).				
15.3.3.2	Power supply output SD2 (terminals SD2 – SD3)				
	Voltage	Uo	DC	8.7	V
	Current	Io		133	mA
	Power	Po		1.16	W
	External capacitance Co and external inductance Lo depend on the power supply connected to input P6 (terminals P6 – P7) reduced by internal values in acc. with cl. 15.3.1.4.				
15.3.3.3	Power supply output SD7 (terminals SD7 – SD4)				
	Voltage	Uo	DC	12.6	V
	Current	Io		92	mA
	Power	Po		1.16	W
	External capacitance Co and external inductance Lo depend on the power supply connected to input P5 (terminals P5 – P4) reduced by internal values in acc. with cl. 15.3.1.3.				
15.3.3.4	Loop circuits				
	Output SD5 (terminals SD5– SD4)				
	Voltage	Uo	DC	5.36	V
	Current	Io		30	mA
	Power	Po		40	mW
	External capacitance	Co		100	nF
	External inductance	Lo		100	µH

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	Output SD6 (terminals SD6 – SD4)				
	Voltage	Uo	DC	5.36	V
	Current	Io		30	mA
	Power	Po		40	mW
	External capacitance	Co		100	nF
	External inductance	Lo		100	µH
15.3.4	Intrinsically safe interface circuit terminal COM 1 (RS232)				
	Values for each circuit				
	Voltage	Ui	DC	± 10	V
	Internal capacitance	Ci		negligible	
	Internal inductance	Li		negligible	
	Voltage	Uo	DC	± 5.36	V
	Current	Io		± 18.1	mA
	Power	Po		24.2	mW
	External capacitance	Co		100	nF
	External inductance	Lo		100	µH
15.3.5	Intrinsically safe interface circuits COM 4 and COM 5				
15.3.5.1	Option board CL, level of protection Ex ib IIC				
	Values for each circuit				
	Voltage	Uo	DC	5.36	V
	Current	Io		107	mA
	Power	Po		144	mW
	External capacitance	Co		600	nF
	External inductance	Lo		400	µH
15.3.5.2	Option board FO, op is, FO-COM4 and FO-COM5				
	Value for each optical output		< 5	mW	
15.3.6	Intrinsically safe IO circuits				
15.3.6.1	Active input circuits (terminals Active IN: A-IN1, A-IN2, A-IN3 and A-IN4)				
	Values for each circuit				
	Voltage	Uo	DC	5.88	V
	Current	Io		2	mA
	Power	Po		2.94	mW
	External capacitance	Co		100	nF
	External inductance	Lo		100	µH
15.3.6.2	Active output circuits (terminals Active OUT: A-OUT1, A-OUT2, A-OUT3, A-OUT4, A-OUT5 and A-OUT6)				
	Values for each circuit				
	Voltage	Uo	DC	12.6	V
	Current	Io		92	mA
	Power	Po		627	mW
	External capacitance	Co		100	nF
	External inductance	Lo		400	µH

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15.3.6.3	Passive output circuits (terminals Passive OUT: P-OUT1, P-OUT2, P-OUT3, P-OUT4, P-OUT5 and P-OUT6)				
	Values for each circuit				
	Voltage	Ui	DC	15	V
	Current	Ii		40	mA
	Power	Pi		150	mW
	Internal capacitance	Ci		10	nF
	Internal inductance	Li		10	µH
156.3.6.4	Passive input circuits (terminals Passive IN: P-IN1, P-IN2, P-IN3 and P-IN4)				
	Values for each circuit				
	Voltage	Ui	DC	30	V
	Current	Ii		50	mA
	Power	Pi		375	mW
	Internal capacitance	Ci		10	nF
	Internal inductance	Li		10	µH
15.3.7	Ambient temperature range	Ta		-10 °C up to +40 °C	
	Maximum surface temperature T				60 °C
4.8	Degrees of protection according to EN 60529				IP 65

(16) Test and assessment report

BVS PP 09.2016 EG as of 12.03.2009

(17) Special conditions for safe use

None

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.

44809 Bochum, 12. March 2009
BVS-Schu / Her A 20080920

DEKRA EXAM GmbH

Certification body

Special services unit

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Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
BVS 09 ATEX E 010

Equipment: **Weighing terminal type IND560x-***

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

Address: **111 West TaiHu Road, XinBei District**
ChangZhou, JiangSu, 213125, P. R. China

Description

The weighing terminals can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report. The terminals have been tested in acc. with EN 60079-0:2009.
Inside the terminal type IND560x-HARSH a Power Adaptor Board can be mounted.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2009	General requirements
EN 60079-11:2007	Intrinsic safety 'i'
EN 60079-28:2007	Optical radiation
EN 61241-11:2006	Intrinsic safety 'iD'

The marking of the equipment shall include the following:

II 2 G Ex ib [op is Ga] IIC T4 Gb
II 2 D Ex ib [op is Da] IIIC T60°C Db
IP65

Parameters

1 Power supply circuit

1.1 Parameters for types IND560x-HARSH (without Power Adaptor Board) and IND560x-PANEL:
Not changed

1.2 Type IND560x-HARSH with internal mounted Power Adaptor Board (conn. BI)

Voltage	Ui	DC	12.0	V
Current	Ii		3.03	A
Power	Pi		6.83	W
internal capacitance	Ci		0.49	µF
internal inductance	Li		negligible	

2 Analog loadcell circuits SA1 to SA7 (terminals Analog scale)

Voltage	Uo	DC	5.88	V
Current	Io		133	mA
Power	Po		0.8	W
External capacitance	Co		0.2	µF
External inductance	Lo		0.3	mH

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3	Digital loadcell circuits SD1 to SD7 (terminals Digital scale) only for terminal without Power Adaptor Board Not changed.		
4	Intrinsically safe interface circuit terminal COM 1 (RS232) Not changed.		
5	Intrinsically safe interface circuits COM 4 and COM 5 Not changed.		
6	Intrinsically safe IO circuits Not changed.		
7	Ambient temperature range maximum surface temperature T	Ta	-10 °C up to +40 °C 60 °C
8	Degrees of protection according to EN 60529		IP 65

Special conditions for safe use

None

Test and assessment report

BVS PP 09.2016 EG as of 15.12.2010

DEKRA EXAM GmbH
Bochum, dated 15.12.2010

Signed: Dr. Franz Eickhoff
Certification body

Signed: Ute Hauke
Special services unit

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.

44809 Bochum, 15.12.2010
BVS-Schu/Schae A 20100876

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