



THE STRONGEST LINK.

Certificates Device platform EAGLE

MT-xx6-A

**SERIES 300 Operator Interfaces
SERIES 400 Open HMI
SERIES 500 Thin Clients**

(valid for HW Revision 3., 2. supplement)

R. STAHL HMI Systems GmbH
Adolf-Grimme-Allee 8
D 50829 Köln

HW-Rev. MT-xx6-A-FX:	03.02.12
HW-Rev. MT-xx6-A-TX:	03.02.22
HW-Rev. MT-xx6-A-FX-BT:	03.02.14
HW-Rev. MT-xx6-A-TX-BT:	03.02.24
HW-Rev. MT-3x6-A-FX-BS:	03.02.15
HW-Rev. MT-3x6-A-TX-BS:	03.02.25

Certificates version:	03.02.06
Issue:	27.11.2019

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1 Preface

 **NOTICE**

This document contains all valid certificates for the MT-xx6-A product line with the 2nd supplement.

All technical details contained in the EC type examination certificate are also part of the associated operating instructions.

All certificates are also available on r-stahl.com, on the CD / DVD / USB stick included in the delivery or a copy can also be ordered from R. STAHL HMI Systems GmbH.

2 ATEX EC type examination certificate

(1) **EC - TYPE EXAMINATION CERTIFICATE**

- (2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - Directive 94/9/EC
- (3) EC-Type Examination Certificate Number



TÜV 11 ATEX 7103 X

- (4) **Equipment:** Operator Interface **Type:** MT-^*6-A-^-*^*
- (5) **Manufacturer:** R. Stahl HMI Systems GmbH
- (6) **Address:** Im Gewerbegebiet Pesch 14 D – 50767 Köln
- (7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Notified Body for ex-protected products of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies 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 atmosphere, given in Annex II to the Directive. The examination and test results are recorded in the confidential report: 557 / Ex 103.00 / 11
- (9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0: 2009	EN 60079-1: 2007	EN 60079-7: 2007	EN 60079-11: 2007
EN 60079-18: 2009	EN 60079-28: 2007	EN 60079-31: 2009	EN 61241-11: 2006
EN 60079-15:2010			
- (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 schedule to this certificate.
- (11) This EC-Type-Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.
- (12) The marking of the equipment shall include the following (alternative marking see manual):

	II 3 (2/3) G	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc	for type code TX
	II 3 (2/3) D	Ex ia tc [ibDb] [ic] IIIC T80°C Dc IP66	for type code TX
	II 3 (2/3) G	Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc	for type code FX
	II 3 (2/3) D	Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66	for type code FX

TÜV Zertifizierungsstelle für Explosionsschutz

Cologne, 2011-08-17

Klaus Wittingfeld
 Dipl.-Ing. Klaus Wittingfeld
 0035
 Notified Body

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Translation!
 This EC-Type Examination Certificate shall not be valid without signature and stamp.
 The EC-Type Examination Certificate may be circulated without alteration only.
 Extracts or alterations are subject to approval by the:
 TÜV Rheinland Industrie Service GmbH, Am Grauen Stein 51105 Köln
 Tel. +49 (0) 221 806-0 Fax. +49 (0) 221 806 114



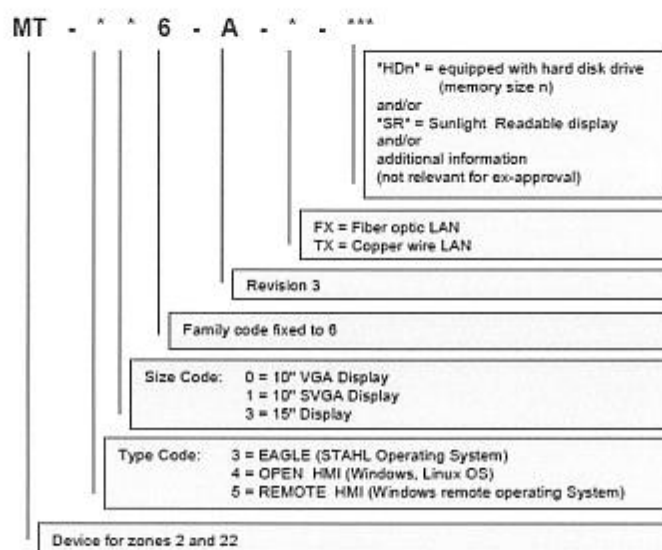
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- (13) Annex to
- (14) **EC - Type Examination Certificate**
TÜV 11 ATEX 7103 X

(15) **Description of Equipment**

15.1 Article / Type Code



The Exicom MT-xx6-A devices are operator interfaces or panel PCs classified Cat. 3 for installation in Zones 2 and 22 hazardous locations with outputs for Zone 1 and Zone 21.

The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazloc certified cabinets.

The different models vary in display size (10" to 15") and overall size, front panel with or without keyboard and overall functionality.

Three main functionalities are (characterized by the first type code number):

- MT-3x6-A: STAHL operating system for user application;
- MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications;
- MT-5x6-A: Windows Embedded Standard operating system for remote applications.

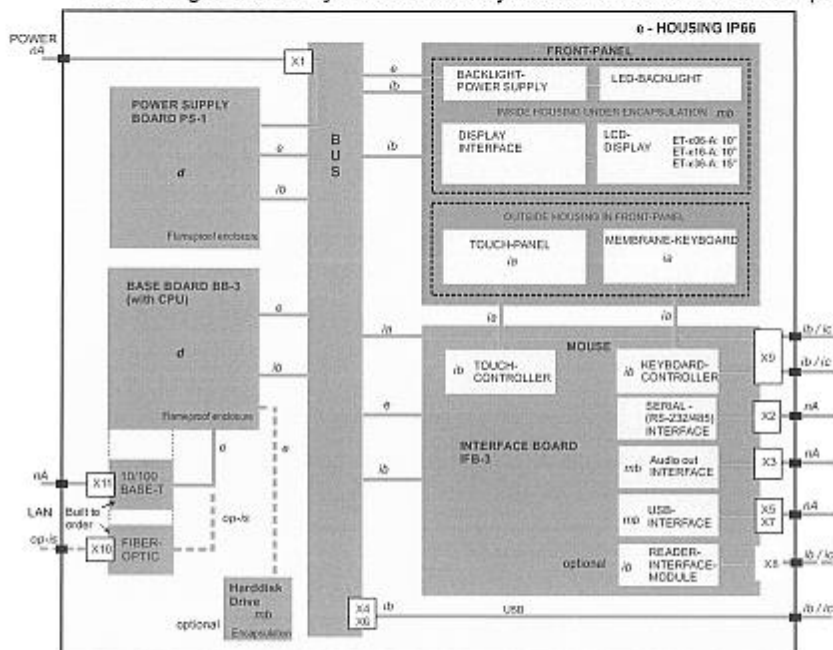
This Certificate may be circulated without alterations only.
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Internal construction of all devices is equal for most parts for all models.

All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc.

Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.

Assembling of accessory as USB memory sticks and hard disk drives is previewed.



Picture 1: Block structure of MT - * * 6 - A - * - * **

15.2 Technical data / parameters

Operating temperature range: -20°C (Front -30°C) <= Ta <= + 55°C
 IP Code of enclosure: IP 66

External, non-intrinsically safe circuits (Ex nA)

Input voltage (X1)

Rated voltage 24 VDC (+20% /-15%)
 max. voltage Um 30 VAC
 Rated current 1.5 A

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RS-422/-232 COM 1 (X2)

Rated voltage	
RS232:	±12 VDC
RS422:	5 VDC
max. voltage Um	253 VAC

Audio out (X3)

Rated voltage	5 VDC
max. voltage Um	253 VAC

USB-1 (X5)

Rated voltage	5 VDC
max. voltage Um	253 VAC

USB-3 (X7)

Rated voltage	5 VDC
max. voltage Um	253 VAC

LAN (X11)

Rated voltage	5 VDC
max. voltage Um	30 VAC

External intrinsically safe circuits

Superposed L and C values are allowed combinations, the results in table below were calculated with software ispark (provided by German Notified Body PTB).

C_o and L_o pairs directly above/underneath each other may be used.

The intrinsically safe circuits may be interfaced either to devices in Zone 1 / 21 as ib circuits or to devices in Zone 2 / 22 as ic circuits. The corresponding is parameters shall be regarded

If the operator interfaces are installed in Zone 21 the maximum values for L and C of Group IIB apply to the intrinsically safe circuits.

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USB-0 (X4) and USB-2 (X6)

$U_0 = 5.9 \text{ V}$

$I_0 = 2.18 \text{ A}$

$P_0 = 1.24 \text{ W}$

a) Maximum values calculated with ispark, rectangular source for Zone 1 Group IIC:

$L_i = 0 \text{ mH}$	$L_o =$	0.01	0.005	0.002	0.001	mH
$C_i = 0 \text{ }\mu\text{F}$	$C_o =$	5.1	11	28	43	μF

Maximum values calculated with ispark, rectangular source for Zone 1 Group IIB:

$L_i = 0 \text{ mH}$	$L_o =$	0.05	0.02	0.01	0.005	mH
$C_i = 0 \text{ }\mu\text{F}$	$C_o =$	14	40	79	200	μF

b) Maximum values calculated with ispark, rectangular source for Zone 2 Group IIC:

$L_i = 0 \text{ mH}$	$L_o =$	0.01	0.005	0.002	0.001	mH
$C_i = 0 \text{ }\mu\text{F}$	$C_o =$	12	24	74	670	μF

Maximum values calculated with ispark, rectangular source for Zone 2 Group IIB:

$L_i = 0 \text{ mH}$	$L_o =$	0.05	0.02	0.01	0.005	mH
$C_i = 0 \text{ }\mu\text{F}$	$C_o =$	37	92	200	790	μF

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ET-Reader-2-RSi1 and RSi2 (X8)**Reader-2-RSi1 module supply (internal UB_RDR output), terminal X8.0 (bridged to X8.2)**

$$U_o = 10.4 \text{ V}$$

$$I_o = 220 \text{ mA}$$

$$P_o = 2.29 \text{ W}$$

a) Maximum values calculated with ispark, rectangular source for Zone 1 Group IIC:

$$L_i = 0 \text{ mH} \quad L_o = 0.01 \text{ mH}$$

$$C_i = 1.72 \text{ }\mu\text{F} \quad C_o = 0.8 \text{ }\mu\text{F}$$

(Remark: no values for IIB as connection to X8.2 is already permitted with level IIC parameters.)

b) Maximum values calculated with ispark, rectangular source for Zone 2 Group IIC:

$$L_i = 0 \text{ mH} \quad L_o = 0.01 \text{ mH}$$

$$C_i = 1.72 \text{ }\mu\text{F} \quad C_o = 4.68 \text{ }\mu\text{F}$$

(Remark: no values for IIB as connection to X8.2 as already permitted with level IIC parameters.)

Reader-2-RSi1 module supply input, terminal X8.2 (bridged to X8.0)

$$U_i = 12.4 \text{ V}$$

$$I_i = 220 \text{ mA}$$

$$P_i = 2.29 \text{ W}$$

$$L_i = 0 \text{ mH}$$

$$C_i = 25 \text{ nF}$$

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Reader-2-RS11 power supply for reader, terminals X8.3 – 4

$$U_o = 5.36 \text{ V}$$

$$I_o = 220 \text{ mA}$$

$$P_o = 1.18 \text{ W}$$

a) Maximum values, rectangular source for Zone 1 Group IIC:

$L_i = 0 \text{ mH}$	$L_o =$	<table border="1"><tr><td>0.002</td><td>0.001</td><td>mH</td></tr></table>	0.002	0.001	mH
0.002	0.001	mH			
$C_i = 5.3 \text{ }\mu\text{F}$	$C_o =$	<table border="1"><tr><td>40.7</td><td>59.7</td><td>μF</td></tr></table>	40.7	59.7	μF
40.7	59.7	μF			

Maximum values, rectangular source for Zone 1 Group IIB:

$L_i = 0 \text{ mH}$	$L_o =$	<table border="1"><tr><td>0.02</td><td>0.01</td><td>mH</td></tr></table>	0.02	0.01	mH
0.02	0.01	mH			
$C_i = 5.3 \text{ }\mu\text{F}$	$C_o =$	<table border="1"><tr><td>70.7</td><td>124.7</td><td>μF</td></tr></table>	70.7	124.7	μF
70.7	124.7	μF			

b) Maximum values, rectangular source for Zone 2 Group IIC:

$L_i = 0 \text{ mH}$	$L_o =$	<table border="1"><tr><td>0.002</td><td>0.001</td><td>mH</td></tr></table>	0.002	0.001	mH
0.002	0.001	mH			
$C_i = 5.3 \text{ }\mu\text{F}$	$C_o =$	<table border="1"><tr><td>124.7</td><td>994.7</td><td>μF</td></tr></table>	124.7	994.7	μF
124.7	994.7	μF			

Maximum values, rectangular source for Zone 2 Group IIB:

$L_i = 0 \text{ mH}$	$L_o =$	<table border="1"><tr><td>0.02</td><td>0.01</td><td>mH</td></tr></table>	0.02	0.01	mH
0.02	0.01	mH			
$C_i = 5.3 \text{ }\mu\text{F}$	$C_o =$	<table border="1"><tr><td>154.7</td><td>324.7</td><td>μF</td></tr></table>	154.7	324.7	μF
154.7	324.7	μF			

Reader-2-Rsi1 and -Rsi2 signal input/output, terminals X8.5 – 8

$$U_i = 15 \text{ V} \qquad U_o = 5.36 \text{ V}$$

$$I_i = 500 \text{ mA} \qquad I_o = 46 \text{ mA}$$

$$P_i = 2.5 \text{ W} \qquad P_o = 62 \text{ mW}$$

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a) Maximum values, linear source for Zone 1 Group IIC:

$$L_i = 0 \text{ mH} \quad L_o = 0.002 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \quad C_o = 46 \text{ } \mu\text{F}$$

Maximum values, linear source for Zone 1 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = 0.02 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \quad C_o = 79 \text{ } \mu\text{F}$$

b) Maximum values, linear source for Zone 2 Group IIC:

$$L_i = 0 \text{ mH} \quad L_o = 0.002 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \quad C_o = 130 \text{ } \mu\text{F}$$

Maximum values, linear source for Zone 2 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = 0.02 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \quad C_o = 160 \text{ } \mu\text{F}$$

ET-Reader-2-WCR1 and WCR2 (X8)**Reader-2-WCR1 module supply (from external is-power supply) terminal X8.1 - 2**

$$U_i = 11.4 \text{ V}$$

$$I_i = 200 \text{ mA}$$

$$P_i = 2.28 \text{ W}$$

$$L_i = 0 \text{ mH}$$

$$C_i = 25 \text{ nF}$$

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Reader-2-WCR1 power supply for reader, terminals X8.3 – 4

$$U_o = 5.88 \text{ V}$$

$$I_o = 200 \text{ mA}$$

$$P_o = 1.18 \text{ W}$$

a) Maximum values, rectangular source for Zone 1 Group IIC

$$L_i = 0 \text{ mH} \quad L_o = \begin{array}{|c|c|c|} \hline 0.002 & 0.001 & \text{mH} \\ \hline \end{array}$$

$$C_i = 5.3 \text{ }\mu\text{F} \quad C_o = \begin{array}{|c|c|c|} \hline 27.7 & 37.7 & \mu\text{F} \\ \hline \end{array}$$

Maximum values, rectangular source for Zone 1 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = \begin{array}{|c|c|c|} \hline 0.02 & 0.01 & \text{mH} \\ \hline \end{array}$$

$$C_i = 5.3 \text{ }\mu\text{F} \quad C_o = \begin{array}{|c|c|c|} \hline 55.7 & 94.7 & \mu\text{F} \\ \hline \end{array}$$

b) Maximum values, rectangular source for Zone 2 Group IIC

$$L_i = 0 \text{ mH} \quad L_o = \begin{array}{|c|c|c|} \hline 0.002 & 0.001 & \text{mH} \\ \hline \end{array}$$

$$C_i = 5.3 \text{ }\mu\text{F} \quad C_o = \begin{array}{|c|c|c|} \hline 80.7 & 664.7 & \mu\text{F} \\ \hline \end{array}$$

Maximum values, rectangular source for Zone 2 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = \begin{array}{|c|c|c|} \hline 0.02 & 0.01 & \text{mH} \\ \hline \end{array}$$

$$C_i = 5.3 \text{ }\mu\text{F} \quad C_o = \begin{array}{|c|c|c|} \hline 114.7 & 234.7 & \mu\text{F} \\ \hline \end{array}$$

Reader-2-WCR1 and -WCR2 signal input/output, X8.5 – 8

$$U_i = 15 \text{ V} \quad U_o = 5.88 \text{ V}$$

$$I_i = 500 \text{ mA} \quad I_o = 51 \text{ mA}$$

$$P_i = 2.5 \text{ W} \quad P_o = 75 \text{ mW}$$

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a) Maximum values, linear source for Zone 1 Group IIC

$$L_i = 0 \text{ mH} \qquad L_o = 0.002 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \qquad C_o = 34 \text{ } \mu\text{F}$$

Maximum values, linear source for Zone 1 Group IIB:

$$L_i = 0 \text{ mH} \qquad L_o = 0.02 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \qquad C_o = 63 \text{ } \mu\text{F}$$

b) Maximum values, linear source for Zone 2 Group IIC

$$L_i = 0 \text{ mH} \qquad L_o = 0.002 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \qquad C_o = 87 \text{ } \mu\text{F}$$

Maximum values, linear source for Zone 2 Group IIB:

$$L_i = 0 \text{ mH} \qquad L_o = 0.02 \text{ mH}$$

$$C_i = 0 \text{ } \mu\text{F} \qquad C_o = 130 \text{ } \mu\text{F}$$

Keyboard & Pointing device protection level "ib" (X9)

$$U_o = 5.88 \text{ V}$$

$$I_o = 200 \text{ mA}$$

$$P_o = 1.18 \text{ W}$$

a) Maximum values, rectangular source for Zone 1 Group IIC

$$L_i = 0 \text{ mH}$$

$$L_o = \begin{array}{|c|c|c|} \hline 2 & 1 & \mu\text{H} \\ \hline \end{array}$$

$$C_i = 17.6 \text{ } \mu\text{F}$$

$$C_o = \begin{array}{|c|c|c|} \hline 15.4 & 25.4 & \mu\text{F} \\ \hline \end{array}$$

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Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH	Lo =	100	50	20	10	μH
Ci = 17.6 μF	Co =	10.4	20.4	43.4	82.4	μF

Keyboard & Pointing device protection level "ia" (X9)

Uo = 5.88 V
Io = 4.36 A
Po = 1.18 W

a) Maximum values, linear source for Zone 1 Group IIC

Li = 0 mH	Lo =	2	1	μH
Ci = 17.6 μF	Co =	13.4	25.4	μF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH	Lo =	20	10	5	1	μH
Ci = 17.6 μF	Co =	32.4	74.4	202.4	982	μF

b) Maximum values, rectangular source for Zone 2 Group IIC

Li = 0 mH	Lo =	0.002	0.001	mH
Ci = 17.6 μF	Co =	68.4	652.4	μF

Maximum values, rectangular source for Zone 2 Group IIB:

Li = 0 mH	Lo =	0.1	0.05	0.02	0.01	mH
Ci = 17.6 μF	Co =	33.4	53.4	102.4	222.4	μF

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External inherently safe optical interface X10

Wavelength = 1350 nm

radiant power \leq 35 mW(16) **Test Report No.** 557 / Ex 103.00 / 11(17) **Special Conditions for safe use**For MT - ** 6 - A - * - *SR* :

The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") may be cleaned with a damp cloth only.

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

Fulfilled

TÜV Zertifizierungsstelle für Explosionsschutz

Cologne, 2011-08-17


Dipl.- Ing. Klaus Wettingfeld


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2.1 1st supplement

1st Supplement
 acc. to directive 94/9/EC, Appendix III, No 6
 to the EC-Type Examination Certificate
TÜV 11 ATEX 7103 X



Device: Operator Interface MT - * * 6 - A - * - * * *
Manufacturer: R. Stahl HMI Systems GmbH
Address: Im Gewerbegebiet Pesch 14 D – 50767 Köln, Germany

Description of supplements and modifications:

(15) The following modifications are valid for this 1st supplement

Verwendete Normen IEC 60079-0: 2011 ; IEC 60079-1: 2007;
 IEC 60079-7: 2006; IEC 60079-11: 2011
Standard basis IEC 60079-15: 2010 ; IEC 60079-18: 2009;
 IEC 60079-28: 2006 ; IEC 60079-31: 2008 ;

Schutzartkennzeichen

Code for type of protection

Type code -TX-	⊕ II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc
	⊕ II 3 (2/3) G Ex db eb ia ib mb nA [ib ic] IIC T4
Type code -FX-	⊕ II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
	⊕ II 3 (2/3) D Ex ia tc [ib ic] IIIC T80°C IP66
Type code -FX-	⊕ II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
	⊕ II 3 (2/3) G Ex db eb ia ib mb nA [ib ic op is] IIC T4
Type code -FX-	⊕ II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
	⊕ II 3 (2/3) D Ex ia tc [ib ic op is] IIIC T80°C IP66

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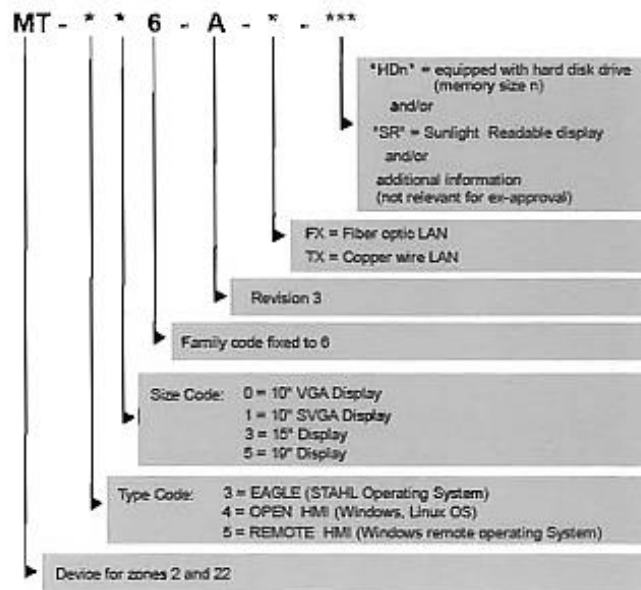
Relevant for user:

The system is supplemented by devices with 19inch displays, characterized by the second type code number "5": MT-356-A., MT-456-A.. and MT-556-A..

Internal changes not relevant for user:

- Standard editions have been adapted to current issues.
- Front panel and housing have been enlarged to fit the larger display.
- Power supply has been modified. Display supply voltage has been increased from 3.3 V to 5 V and USB shutdown function has been implemented.
- FX-Version of Base Board has been modified. A not ex-relevant resistor was eliminated.
- At Interface Board the audio output has been modified. Not ex-relevant resistors may be changed to adjust volume.
- Power into 19 inch display front has been assessed.
- Assignment of thermo cut-offs at CONV31 device have been clarified.

Type code:



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The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazloc certified cabinets.

The different models vary in display size (10" to 15" and in 1st Supplement now 19") and overall size, front panel with or without keyboard and overall functionality.

Three main functionalities are (characterized by the first type code number):

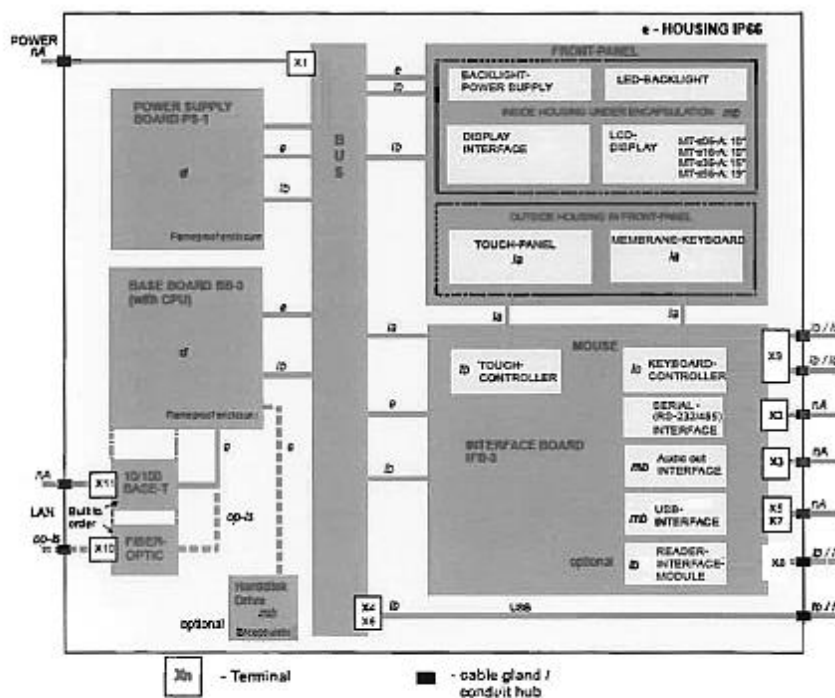
- MT-3x6-A: STAHL operating system for user application;
- MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications;
- MT-5x6-A: Windows Embedded Standard operating system for remote applications.

Internal construction of all devices is equal for most parts for all models.

All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc.

Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.

Assembling of accessory as USB memory sticks and hard disk drives is previewed.



Picture 1: Block structure of MT - * * 6 - A - * - * * *

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0325 010

Technical data

All data unchanged.

(16) Test Report No. 557 / Ex 103.01 / 11

(17) Special conditions for safe use

For MT - ** 6 - A - * - *SR* :

The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") may be cleaned with a damp cloth only.

(18) Basic Safety and Health Requirements

Covered by mentioned standards in the original certificate.

TÜV Rheinland - Zertifizierungsstelle

Cologne, 2012-02-09


Dipl.-Ing. Klauspeter Graf



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2.2 2nd supplement

2nd Supplement
 acc. to directive 94/9/EC, Appendix III, No 6
to the EC-Type Examination Certificate
TÜV 11 ATEX 7103 X



Device: Operator Interface MT - ** 6 - A - * - ***
Manufacturer: R. Stahl HMI Systems GmbH
Address: Im Gewerbegebiet Pesch 14 D – 50767 Köln, Germany

Description of supplements and modifications:

(15) The following modifications are valid for this 2nd supplement

Verwendete Normen IEC 60079-0: 2011 ; IEC 60079-1: 2007;
 IEC 60079-7: 2006; IEC 60079-11: 2011
 Standard basis IEC 60079-15: 2010 ; IEC 60079-18: 2009;
 IEC 60079-28: 2006 ; IEC 60079-31: 2008 ;

Schutzartkennzeichen
 Code for type of protection

Type code -TX-	⊕ II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc
	altern. ⊕ II 3 (2/3) G Ex db eb ia ib mb nA [ib ic] IIC T4
altern.	⊕ II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66
	⊕ II 3 (2/3) D Ex ia tc [ib ic] IIIC T80°C IP66
Type code -FX-	⊕ II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
	altern. ⊕ II 3 (2/3) G Ex db eb ia ib mb nA [ib ic op is] IIC T4
altern.	⊕ II 3 (2/3) D Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66
	⊕ II 3 (2/3) D Ex ia tc [ib ic op is] IIIC T80°C IP66

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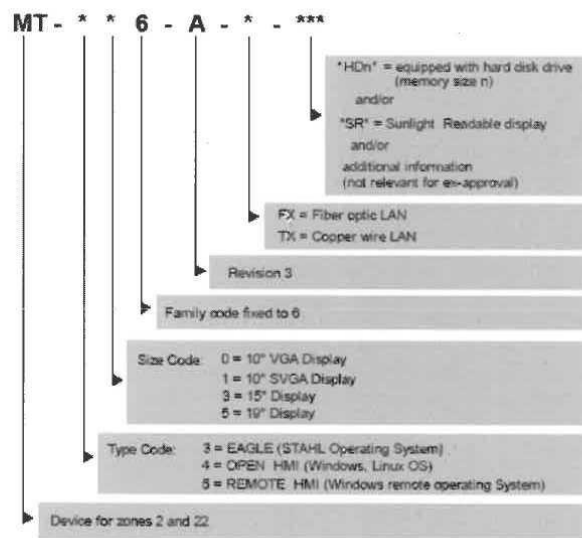
10201 4.08 E A4 © TÜV, TÜV EAV and TÜV are registered trademarks. Utilisation and application requires prior approval.



1. Relevant for user:

- Additional COM 2-3 interface (X22)
- New electrical parameter of interfaces applicable for products build from date of this 2nd Supplement.

Type code:



2. Description

The Exicom MT-xx6-A devices are operator interfaces or panel PCs classified Cat. 3 for installation in Zones 2 and 22 hazardous locations with outputs for Zone 1 and 21.

The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazloc certified cabinets.

The different models vary in display size (10" to 15" and 19") and overall size, front panel with or without keyboard and overall functionality.

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Three main functionalities are (characterized by the first type code number):

MT-3x6-A: STAHL operating system for user application;

MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications;

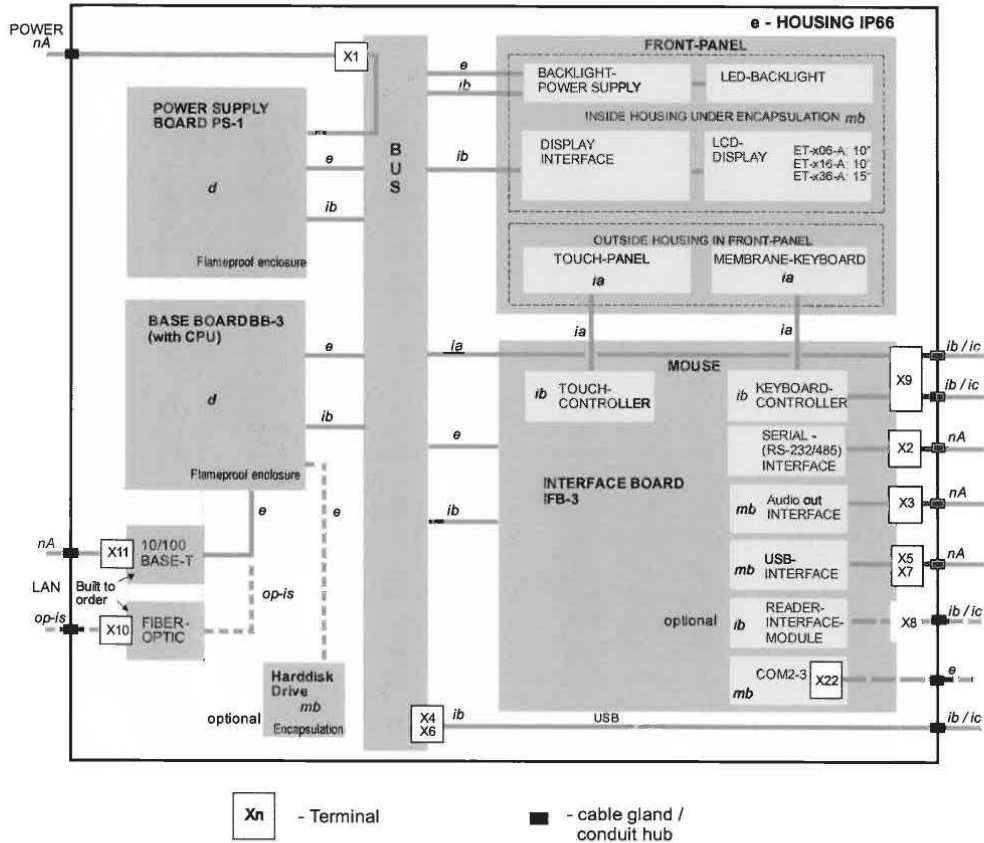
MT-5x6-A: Windows Embedded Standard operating system for remote applications.

Internal construction of all devices is equal for most parts for all models.

All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc.

Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.

Assembling of accessory as USB memory sticks and hard disk drives is previewed.



Picture 1: Block structure of MT - ** 6 - A - * - ***

3. Technical data

Operating temperature range : $-30^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$ at front of unit
 $-20^{\circ}\text{C} \leq T_a \leq +55^{\circ}\text{C}$ at rear of unit

IP Code of enclosure: IP 66

The device may be installed and operated in any position.

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3.1 Electrical data

3.1.1 External, non-intrinsically safe circuits

3.1.2 Input voltage (X1)

Rated voltage 24 VDC (+20% /-15%)

max. voltage U_m 30 VAC

Rated current 1.5 A

3.1.3 RS-422/-232 COM 1 (X2)

Rated voltage RS232: ± 12 VDC

RS422: 5 VDC

max. voltage U_m 253 VAC

3.1.4 Audio out (X3)

Rated voltage 5 VDC

max. voltage U_m 253 VAC

3.1.5 USB-1 (X5)

Rated voltage 5 VDC

max. voltage U_m 253 VAC

3.1.6 USB-3 (X7)

Rated voltage 5 VDC

max. voltage U_m 253 VAC

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3.1.7 LAN (X11)

Rated voltage	5 VDC
max. voltage U_m	30 VAC

3.1.8 RS-422/-232 COM 2-3 (X22)

Rated voltage	RS232: ±12 VDC	
	RS422: 5 VDC	
max. voltage U_m	253 VAC	

3.2 External intrinsically safe circuits

(Superposed L and C values are allowed combinations, calculated with ispark.)

The intrinsically safe circuits may be interfaced either to devices in Zone 1 / 21 as ib circuits or to devices in Zone 2 / 22 as ic circuits. The corresponding is parameters shall be regarded:

3.2.1 USB-0 (X4) and USB-2 (X6)

U_o	=	5.9	V	
I_o	=	2.69	A	Summed current when all connections from USB-0 (USB-2) are short-circuited to GND.
P_o	=	6.02	W	Power available when all connections from USB-0 (USB-2) are short-circuited to GND.

a) Maximum values calculated with ispark, rectangular source for Zone 1 Group IIC:

L_i	=	0	mH	L_o	=	0.01	0.005	0.002	0.001	mH
C_i	=	0	µF	C_o	=	5.1	11	28	40	µF

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Maximum values calculated with ispark, rectangular source for Zone 1 Group IIB:

Li	=	0	mH	Lo	=	0.05	0.02	0.01	0.005	mH
Ci	=	0	µF	Co	=	14	40	79	200	µF

b) Maximum values calculated with ispark, rectangular source for Zone 2 Group IIC:

Li	=	0	mH	Lo	=	0.01	0.005	0.002	0.001	mH
Ci	=	0	µF	Co	=	10	22	72	670	µF

Maximum values calculated with ispark, rectangular source for Zone 2 Group IIB:

Li	=	0	mH	Lo	=	0.05	0.02	0.01	0.005	mH
Ci	=	0	µF	Co	=	29	84	190	770	µF

3.2.2 ET-Reader-2-RSi1 and RSi2 (X8)

3.2.2.1 Reader-2-RSi1 module supply (internal UB_RDR output), terminal X8.0 (bridged to X8.2)

U _o	=	10.4	V
I _o	=	220	mA
P _o	=	2.29	W

a) Maximum values calculated with ispark, rectangular source for Zone 1 Group IIC:

Li	=	0	mH	Lo	=	0.01	mH
Ci	=	1.72	µF	Co	=	0.8	µF

(Remark: no values for IIB as connection to X8.2 as already permitted with level IIC parameters.)

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b) Maximum values calculated with ispark, rectangular source for Zone 2 Group IIC:

$$L_i = 0 \text{ mH} \qquad L_o = 0.01 \text{ mH}$$

$$C_i = 1.72 \text{ } \mu\text{F} \qquad C_o = 4.68 \text{ } \mu\text{F}$$

(Remark: no values for IIB as connection to X8.2 as already permitted with level IIC parameters.)

Reader-2-RSi1 module supply input, terminal X8.2 (bridged to X8.0)

$$U_i = 12.4 \text{ V}$$

$$I_i = 220 \text{ mA}$$

$$P_i = 2.29 \text{ W}$$

$$L_i = 0 \text{ mH}$$

$$C_i = 25 \text{ nF}$$

3.2.2.2 Reader-2-RSi1 power supply for reader, terminals X8.3 – 4

$$U_o = 5.36 \text{ V}$$

$$I_o = 220 \text{ mA}$$

$$P_o = 1.18 \text{ W}$$

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a) Maximum values, rectangular source for Zone 1 Group IIC:

$$\begin{array}{ll} \text{Li} = 0 \text{ mH} & \text{Lo} = 0.002 \text{ } 0.001 \text{ mH} \\ \text{Ci} = 5.3 \text{ } \mu\text{F} & \text{Co} = 40.7 \text{ } 59.7 \text{ } \mu\text{F} \end{array}$$

Maximum values, rectangular source for Zone 1 Group IIB:

$$\begin{array}{ll} \text{Li} = 0 \text{ mH} & \text{Lo} = 0.02 \text{ } 0.01 \text{ mH} \\ \text{Ci} = 5.3 \text{ } \mu\text{F} & \text{Co} = 70.7 \text{ } 124.7 \text{ } \mu\text{F} \end{array}$$

b) Maximum values, rectangular source for Zone 2 Group IIC:

$$\begin{array}{ll} \text{Li} = 0 \text{ mH} & \text{Lo} = 0.002 \text{ } 0.001 \text{ mH} \\ \text{Ci} = 5.3 \text{ } \mu\text{F} & \text{Co} = 124.7 \text{ } 994.7 \text{ } \mu\text{F} \end{array}$$

Maximum values, rectangular source for Zone 2 Group IIB:

$$\begin{array}{ll} \text{Li} = 0 \text{ mH} & \text{Lo} = 0.02 \text{ } 0.01 \text{ mH} \\ \text{Ci} = 5.3 \text{ } \mu\text{F} & \text{Co} = 154.7 \text{ } 324.7 \text{ } \mu\text{F} \end{array}$$

3.2.2.3 Reader-2-Rsi1 and -Rsi2 signal input/output, terminals X8.5 – 8

$$\begin{array}{ll} \text{Ui} = 15 \text{ V} & \text{Uo} = 5.36 \text{ V} \\ \text{Ii} = 500 \text{ mA} & \text{Io} = 46 \text{ mA} \\ \text{Pi} = 2.5 \text{ W} & \text{Po} = 62 \text{ mW} \end{array}$$

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a) Maximum values, linear source for Zone 1 Group IIC:

$$Li = 0 \text{ mH} \qquad Lo = 0.002 \text{ mH}$$

$$Ci = 0 \text{ } \mu\text{F} \qquad Co = 46 \text{ } \mu\text{F}$$

Maximum values, linear source for Zone 1 Group IIB:

$$Li = 0 \text{ mH} \qquad Lo = 0.02 \text{ mH}$$

$$Ci = 0 \text{ } \mu\text{F} \qquad Co = 79 \text{ } \mu\text{F}$$

b) Maximum values, linear source for Zone 2 Group IIC:

$$Li = 0 \text{ mH} \qquad Lo = 0.002 \text{ mH}$$

$$Ci = 0 \text{ } \mu\text{F} \qquad Co = 130 \text{ } \mu\text{F}$$

Maximum values, linear source for Zone 2 Group IIB:

$$Li = 0 \text{ mH} \qquad Lo = 0.02 \text{ mH}$$

$$Ci = 0 \text{ } \mu\text{F} \qquad Co = 160 \text{ } \mu\text{F}$$

3.2.3 ET-Reader-2-WCR1 and WCR2 (X8)

3.2.3.1 Reader-2-WCR1 module supply (from external is-power supply) terminal X8.1 - 2

$$Ui = 11.4 \text{ V}$$

$$Ii = 200 \text{ mA}$$

$$Pi = 2.28 \text{ W}$$

$$Li = 0 \text{ mH}$$

$$Ci = 25 \text{ nF}$$

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3.2.3.2 Reader-2-WCR1 power supply for reader, terminals X8.3 – 4

$$U_o = 5.88 \text{ V}$$

$$I_o = 200 \text{ mA}$$

$$P_o = 1.18 \text{ W}$$

a) Maximum values, rectangular source for Zone 1 Group IIC

$$L_i = 0 \text{ mH} \quad L_o = 0.002 \text{ } 0.001 \text{ mH}$$

$$C_i = 5.3 \text{ } \mu\text{F} \quad C_o = 27.7 \text{ } 37.7 \text{ } \mu\text{F}$$

Maximum values, rectangular source for Zone 1 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = 0.02 \text{ } 0.01 \text{ mH}$$

$$C_i = 5.3 \text{ } \mu\text{F} \quad C_o = 55.7 \text{ } 94.7 \text{ } \mu\text{F}$$

b) Maximum values, rectangular source for Zone 2 Group IIC

$$L_i = 0 \text{ mH} \quad L_o = 0.002 \text{ } 0.001 \text{ mH}$$

$$C_i = 5.3 \text{ } \mu\text{F} \quad C_o = 80.7 \text{ } 664.7 \text{ } \mu\text{F}$$

Maximum values, rectangular source for Zone 2 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = 0.02 \text{ } 0.01 \text{ mH}$$

$$C_i = 5.3 \text{ } \mu\text{F} \quad C_o = 114.7 \text{ } 234.7 \text{ } \mu\text{F}$$

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3.2.3.3 Reader-2-WCR1 and -WCR2 signal input/output, X8.5 – 8

U_i	=	15	V	U_o	=	5.88	V
I_i	=	500	mA	I_o	=	51	mA
P_i	=	2.5	W	P_o	=	75	mW

a) Maximum values, linear source for Zone 1 Group IIC

L_i	=	0	mH	L_o	=	0.002	mH
C_i	=	0	μ F	C_o	=	34	μ F

Maximum values, linear source for Zone 1 Group IIB:

L_i	=	0	mH	L_o	=	0.02	mH
C_i	=	0	μ F	C_o	=	63	μ F

b) Maximum values, linear source for Zone 2 Group IIC

L_i	=	0	mH	L_o	=	0.002	mH
C_i	=	0	μ F	C_o	=	87	μ F

Maximum values, linear source for Zone 2 Group IIB:

L_i	=	0	mH	L_o	=	0.02	mH
C_i	=	0	μ F	C_o	=	130	μ F

3.2.4 Keyboard & Pointing device (X9)

U_o	=	5.88	V
-------	---	------	---

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$$I_o = 200 \text{ mA}$$

$$P_o = 1.18 \text{ W}$$

a) Maximum values, rectangular source for Zone 1 Group IIC

$$L_i = 0 \text{ mH} \quad L_o = 0.002 \quad 0.001 \text{ mH}$$

$$C_i = 17.6 \text{ }\mu\text{F} \quad C_o = 15.4 \quad 25.4 \text{ }\mu\text{F}$$

Maximum values, rectangular source for Zone 1 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = 0.1 \quad 0.05 \quad 0.02 \quad 0.01 \text{ mH}$$

$$C_i = 17.6 \text{ }\mu\text{F} \quad C_o = 10.4 \quad 20.4 \quad 43.4 \quad 82.4 \text{ }\mu\text{F}$$

b) Maximum values, rectangular source for Zone 2 Group IIC

$$L_i = 0 \text{ mH} \quad L_o = 0.002 \quad 0.001 \text{ mH}$$

$$C_i = 17.6 \text{ }\mu\text{F} \quad C_o = 68.4 \quad 652.4 \text{ }\mu\text{F}$$

Maximum values, rectangular source for Zone 2 Group IIB:

$$L_i = 0 \text{ mH} \quad L_o = 0.1 \quad 0.05 \quad 0.02 \quad 0.01 \text{ mH}$$

$$C_i = 17.6 \text{ }\mu\text{F} \quad C_o = 33.4 \quad 53.4 \quad 102.4 \quad 222.4 \text{ }\mu\text{F}$$

3.3 External inherently safe optical interface X10

$$\text{Wavelength} = 1350 \text{ nm}$$

$$\text{radiant power} \leq 35 \text{ mW}$$

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(16) Test Report No. 557 / Ex 103.02 / 13

(17) Special conditions for safe use

The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") and the other models if an additional film is applied to the front may be cleaned with a damp cloth only. The additional warning advice label shall be applied at or near the device.

(18) Basic Safety and Health Requirements

Covered by mentioned standards in the original certificate.

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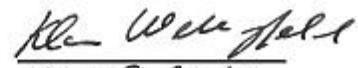
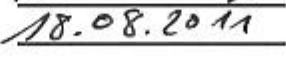

Cologne, 2013-07-03

Klauspeter Graf
 Dipl.-Ing. Klauspeter Graf


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3 IECEX certificate



		<h2>IECEX Certificate of Conformity</h2>	
<p>INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEX Scheme visit www.iecex.com</small></p>			
Certificate No.:	IECEX TUR 11.0015X	issue No.:0	Certificate history:.....
Status:	Current		
Date of Issue:	2011-08-17	Page 1 of 3	
Applicant:	R. Stahl HMI Systems GmbH Im Gewerbegebiet Pesch 14 D- 50 767 Köln Germany		
Electrical Apparatus:	Operator Interface MT-**6-A-***		
Optional accessory:			
Type of Protection:	d, e, i, iD, n, m, op is, t		
Marking:	Ex d e ia Ib mb nA [Ib Gb] [ic] IIC T4 Gc and Ex ia tc [Ib Db] [ic] IIC T80°C Dc IP66 for type code TX Ex d e ia Ib mb nA [Ib op is Gb] [ic] IIC T4 Gc and Ex ia tc [Ib op is Db] [ic] IIC T80°C Dc IP66 for type code FX see attachment and manual for alternative marking		
Approved for issue on behalf of the IECEX Certification Body:	Dipl. Ing. Klaus Wettingfeld		
Position:	head of certification body		
Signature: (for printed version)			
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.			
Certificate issued by:			
TÜV Rheinland Industrie Service GmbH Am Grauen Stein 51105 Cologne Germany			

IEC		IECEX		IECEX Certificate of Conformity	
Certificate No.:	IECEX TUR 11.0015X		Issue No.: 0		
Date of issue:	2011-08-17		Page 2 of 3		
Manufacturer:	R. Stahl HMI Systems GmbH Im Gewerbegebiet Pesch 14 D- 50 767 Köln Germany				
Manufacturing location(s):					
<p>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.</p>					
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:					
IEC 60079-0 : 2007-10 Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements				
IEC 60079-1 : 2007-04 Edition: 5	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"				
IEC 60079-11 : 2006 Edition: 5	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"				
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"				
IEC 60079-18 : 2009 Edition: 3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"				
IEC 60079-28 : 2006-08 Edition: 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation				
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"				
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"				
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety "ID"				
<p><i>This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.</i></p>					
TEST & ASSESSMENT REPORTS:					
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in					
Test Report:					
DE/TUR/ExTR11.0016/00					
Quality Assessment Report:					
DE/BVS/QAR10.0002/01					

		<h2 style="margin: 0;">IECEX Certificate of Conformity</h2>	
Certificate No.:	IECEX TUR 11.0015X		Issue No.: 0
Date of Issue:	2011-08-17	Page 3 of 3	
Schedule			
EQUIPMENT:			
<i>Equipment and systems covered by this certificate are as follows:</i>			
<p>The Exicom MT-xx6-A devices are operator interfaces or panel PCs classified Cat. 3 for installation in Zones 2 and 22 hazardous locations with outputs for Zone 1 and 21. The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazardous certified cabinets. The different models vary in display size (10" to 15") and overall size, front panel with or without keyboard and overall functionality. Three main functionalities are (characterized by the first type code number): MT-3x6-A: STAHL operating system for user application; MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications; MT-5x6-A: Windows Embedded Standard operating system for remote applications. Internal construction of all devices is equal for most parts for all models. All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc. Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.</p> <p>Assembling of accessory as USB memory sticks and hard disk drives is previewed.</p>			
CONDITIONS OF CERTIFICATION: YES as shown below:			
<p>For MT - ** 6 - A - * - *SR* (Sunlight readable display)</p> <p>The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") may be cleaned with a damp cloth only.</p>			

Annexe: 557-Ex-103-00-11--ExTR_Attachment.pdf

3.1 Issue No1

		<h1>IECEX Certificate of Conformity</h1>	
<p>INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres for rules and details of the IECEX Scheme visit www.iecex.com</p>			
Certificate No.:	IECEX TUR 11.0015X	issue No.:1	Certificate history: Issue No. 1 (2012-2-9) Issue No. 0 (2011-8-17)
Status:	Current		
Date of Issue:	2012-02-09	Page 1 of 4	
Applicant:	R. Stahl HMI Systems GmbH Im Gewerbegebiet Pesch 14 D- 50 767 Köln Germany		
Electrical Apparatus:	Operator Interface MT-**6-A*-*** <i>Optional accessory:</i>		
Type of Protection:	d, e, i, iD, n, m, op is, t		
Marking:	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc and Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 for type code TX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc and Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66 for type code FX see attachment and manual for alternative marking		
Approved for issue on behalf of the IECEX Certification Body:	Dipl. Ing. Klauspeter Graffi		
Position:	head of certification body		
Signature: (for printed version)	_____		
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.			
Certificate issued by:			
TÜV Rheinland Industrie Service GmbH Am Grauen Stein 51105 Cologne Germany			



IECEX Certificate of Conformity

Certificate No.: IECEx TUR 11.0015X
 Date of Issue: 2012-02-09 Issue No.: 1
 Page 2 of 4

Manufacturer: **R. Stahl HMI Systems GmbH**
 Im Gewerbegebiet Pesch 14
 D- 50 767 Köln
 Germany

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:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11 : 2011-06 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
IEC 60079-18 : 2009 Edition: 3	Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
IEC 60079-28 : 2006-08 Edition: 1	Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
IEC 60079-31 : 2008 Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
IEC 60079-7 : 2006-07 Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
IEC 61241-11 : 2005 Edition: 1	Electrical apparatus for use in the presence of combustible dusts - Part 11: Protection by intrinsic safety 'ID'

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:
DE/TUR/ExTR11.0016/01

Quality Assessment Report:

DE/BVS/QAR10.0002/02



IECEX Certificate of Conformity

Certificate No.: IECEX TUR 11.0015X
 Date of Issue: 2012-02-09 Issue No.: 1
 Page 3 of 4

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Exicom MT-xx6-A devices are operator interfaces or panel PCs classified Cat. 3 for installation in Zones 2 and 22 hazardous locations with outputs for Zone 1 and 21. The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazloc certified cabinets. The different models vary in display size (10" to 15") and overall size, front panel with or without keyboard and overall functionality. Three main functionalities are (characterized by the first type code number): MT-3x6-A: STAHL operating system for user application; MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications; MT-5x6-A: Windows Embedded Standard operating system for remote applications. Internal construction of all devices is equal for most parts for all models. All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc. Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.
 Assembling of accessory as USB memory sticks and hard disk drives is previewed.

CONDITIONS OF CERTIFICATION: YES as shown below:

For MT - ** 6 - A - * - *SR* (Sunlight readable display)
 The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") may be cleaned with a damp cloth only.



IECEX Certificate of Conformity



Certificate No.: IECEX TUR 11.0015X
 Date of Issue: 2012-02-09 Issue No.: 1
 Page 4 of 4

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Relevant for user:
 The system is supplemented by devices with 19inch displays, characterized by the second type code number "5":
 MT-356-A., MT-456-A.. and MT-556-A..

Annexe: DE-TUR-ExTR 11.0015X-01_Attachment.pdf

3.2 Issue No2

		<h2 style="margin: 0;">IECEX Certificate of Conformity</h2>	
<p>INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres <small>for rules and details of the IECEX Scheme visit www.iecex.com</small></p>			
Certificate No.:	IECEX TUR 11.0015X	issue No.:2	Certificate history: Issue No. 2 (2013-7-3) Issue No. 1 (2012-2-9) Issue No. 0 (2011-8-17)
Status:	Current		
Date of Issue:	2013-07-03	Page 1 of 5	
Applicant:	R. Stahl HMI Systems GmbH Im Gewerbegebiet Pesch 14 D- 50 767 Köln Germany		
Electrical Apparatus: <i>Optional accessory:</i>	Operator Interface MT-**6-A-*.***		
Type of Protection:	d, e, i, iD, n, m, op is, t		
Marking:	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc and Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66 for type code TX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc and Ex ia tc [ib op is Db] [ic] IIIC T80°C Dc IP66 for type code FX see attachment and manual for alternative marking		
Approved for issue on behalf of the IECEX Certification Body:	Dipl. Ing. Klauspeter Graffi		
Position:	Head of Certification Body		
Signature: <i>(for printed version)</i>			
Date:	<u>2013-07-03</u>		
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.			
Certificate issued by:			
TÜV Rheinland Industrie Service GmbH Am Grauen Stein 51105 Cologne Germany			



IECEX Certificate of Conformity

Certificate No.: IECEX TUR 11.0015X
 Date of Issue: 2013-07-03 Issue No.: 2
 Page 2 of 5
 Manufacturer: **R. Stahl HMI Systems GmbH**
 Im Gewerbegebiet Pesch 14
 D- 50 767 Köln
 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:

- IEC 60079-0 : 2011** Explosive atmospheres - Part 0: General requirements
Edition: 6.0
- IEC 60079-1 : 2007-04** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition: 6
- IEC 60079-11 : 2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition: 6.0
- IEC 60079-15 : 2010** Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition: 4
- IEC 60079-18 : 2009** Explosive atmospheres Part 18: Equipment protection by encapsulation "m"
Edition: 3
- IEC 60079-28 : 2006-08** Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition: 1
- IEC 60079-31 : 2008** Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition: 1
- IEC 60079-7 : 2006-07** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition: 4

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:
DE/TUR/EXTR11.0016/02

Quality Assessment Report:
DE/BVS/QAR10.0002/03



IECEX Certificate of Conformity

Certificate No.: IECEX TUR 11.0015X
 Date of Issue: 2013-07-03
 Issue No.: 2
 Page 3 of 5

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Exicom MT-xx6-A devices are operator interfaces or panel PCs classified Cat. 3 for installation in Zones 2 and 22 hazardous locations with outputs for Zone 1 and 21. The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazloc certified cabinets. The different models vary in display size (10" to 15" and 19") and overall size, front panel with or without keyboard and overall functionality. Three main functionalities are (characterized by the first type code number):

MT-3x6-A: STAHL operating system for user application;

MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications;

MT-5x6-A: Windows Embedded Standard operating system for remote applications. Internal construction of all devices is equal for most parts for all models. All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc. Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.

Assembling of accessory as USB memory sticks and hard disk drives is previewed.

CONDITIONS OF CERTIFICATION: YES as shown below:

The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") and the other models if an additional film is applied to the front may be cleaned with a damp cloth only. The additional warning advice label shall be applied at or near the device.



IECEX Certificate of Conformity

Certificate No.: IECEX TUR 11.0015X

Date of Issue: 2013-07-03

Issue No.: 2

Page 4 of 5

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Relevant for User:

- Additional COM 2-3 interface (X22)
- New electrical parameter of interfaces applicable for products build from date of this 2nd Supplement.



IECEX Certificate of Conformity

Certificate No.: IECEX TUR 11.0015X

Date of Issue: 2013-07-03

Issue No.: 2

Page 5 of 5



Additional information:

See attachment.

Annexe: DE-TUR-ExTR 11.0015X-02_Attachment.pdf

4 EAC certificate

Russia / Kazakh / Belarus certification

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ	
СЕРТИФИКАТ СООТВЕТСТВИЯ	
	№ ЕАЭС RU C-DE.НА91.В.00085/19
Серия RU	№ 0110932
<p>ОРГАН ПО СЕРТИФИКАЦИИ Орган по сертификации продукции Общества с ограниченной ответственностью Сертификационный центр «ЭНДЬЮРЕНС». Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 115114, Россия, город Москва, 2-й Павелецкий проезд, дом 5, строение 1, этаж 5, помещение VII, комната 11. Регистрационный номер аттестата аккредитации RA.RU.11НА91, дата регистрации аттестата аккредитации 23.11.2018; номер телефона: +7 (495) 799-07-93; адрес электронной почты: info@ccendce.com</p>	
<p>ЗАЯВИТЕЛЬ Общество с ограниченной ответственностью «Р. ШТАЛЬ». Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 129085, Россия, город Москва, Звёздный бульвар, дом 21, строение 1. Основной государственный регистрационный номер: 5087746541493, номер телефона: +7(495)615-04-73, адрес электронной почты: info@stahl.ru.com.</p>	
<p>ИЗГОТОВИТЕЛЬ R. STAHL HMI Systems GmbH. Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Adolf-Grimme-Allee 8, 50829 Koeln, Германия.</p>	
<p>ПРОДУКЦИЯ Терминалы управления серий ET и MT во взрывозащищенном исполнении. Продукция изготовлена в соответствии с технической документацией предприятия-изготовителя R. STAHL HMI Systems GmbH. Серийный выпуск.</p>	
<p>КОД ТН ВЭД ЕАЭС 8537 10 990 0</p>	
<p>СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах".</p>	
<p>СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ Протокола испытаний № А0025.1.СТ/19 от 25.10.2019 г. Испытательный центр промышленной продукции Федерального государственного унитарного предприятия "Российский федеральный ядерный центр - Всероссийский научно-исследовательский институт экспериментальной физики" (ФГУП "РФЯЦ-ВНИИЭФ"), аттестат аккредитации № RA.RU.21ME17; Акта о результатах анализа состояния производства № 0084-СС/А от 11.09.2019; документов предоставленных заявителем в качестве доказательства соответствия требованиям ТР ТС 012/2011: Инструкции по эксплуатации ОI_ET_xx6_A, ОI_MT_xx6_A, комплект чертежей и электрических схем. Схема сертификации 1с.</p>	
<p>ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ Стандарты, в результате применения которых на добровольной основе обеспечивается соблюдение требований технического регламента, указаны в Приложении (бланк № 0708284). Условия хранения, назначенный срок хранения и назначенный срок службы согласно эксплуатационной документации изготовителя. Описание конструкции и средств обеспечения взрывозащиты, а также иная информация, идентифицирующая продукцию, указаны в Приложении (бланки № 0708285, 0708286, 0708287).</p>	
<p>СРОК ДЕЙСТВИЯ С 25.11.2019</p>	<p>ПО 24.11.2024</p>
<p>ВКЛЮЧИТЕЛЬНО</p>	
<p>Руководитель (уполномоченное лицо) органа по сертификации</p>	<p>Вервейко Татьяна Юрьевна (Ф.И.О.)</p>
<p>Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))</p>	<p>Хлопин Станислав Юрьевич (Ф.И.О.)</p>
	

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

лист 1

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00085/19

Серия **RU** № **0708284**

Сведения о стандартах, применяемых на добровольной основе для соблюдения требований технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах"

Обозначение стандартов	Наименование стандартов
ГОСТ 31610.0-2014 (IEC 60079-0:2011)	Взрывоопасные среды. Часть 0. Оборудование. Общие требования.
ГОСТ IEC 60079-1-2011	Взрывоопасные среды. Часть 1. Оборудование с видом взрывозащиты "взрывонепроницаемые оболочки "d"
ГОСТ 31610.7-2012/ IEC 60079-7:2006	Электрооборудование для взрывоопасных газовых сред. Часть 7. Повышенная защита вида "е"
ГОСТ 31610.11-2014 (IEC 60079-11:2011)	Взрывоопасные среды. Часть 11. Оборудование с видом взрывозащиты "искробезопасная электрическая цепь "i"
ГОСТ 31610.15-2014/IEC 60079-15:2010	Взрывоопасные среды. Часть 15. Оборудование с видом взрывозащиты "n"
ГОСТ Р МЭК 60079-18-2012	Взрывоопасные среды. Часть 18. Оборудование с видом взрывозащиты "герметизация компаундом "m"
ГОСТ 31610.28-2012/IEC 60079-28:2006	Взрывоопасные среды. Часть 28. Защита оборудования и передающих систем, использующих оптическое излучение
ГОСТ IEC 60079-31-2013	Взрывоопасные среды. Часть 31. Оборудование с защитой от воспламенения пыли оболочками "t"

Руководитель (уполномоченное лицо) органа по сертификации

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))

(подпись)
(подпись)



Вервейко Татьяна Юрьевна (Ф.И.О.)

Хлюпин Станислав Юрьевич (Ф.И.О.)

ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

лист 2

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00085/19

Серия **RU** № **0708285**

1. НАЗНАЧЕНИЕ И ОБЛАСТЬ ПРИМЕНЕНИЯ

Терминалы управления серий ET и MT во взрывозащищенном исполнении (далее по тексту - терминалы) предназначены для приема входных сигналов, визуального отображения их на экране дисплея, задания оператором необходимых параметров, передачи полученных данных и заданий оператора в систему управления технологическими процессами.

Область применения – взрывоопасные зоны помещений и наружных установок, в соответствии с присвоенной маркировкой взрывозащиты, требованиями ГОСТ IEC 60079-14-2013 и отраслевых Правил безопасности, регламентирующих применение данного оборудования во взрывоопасных зонах.

2. ОСНОВНЫЕ ТЕХНИЧЕСКИЕ ДАННЫЕ

2.1 Структура условного обозначения терминалов:

ET-**6-A-***

- тип терминала (ET для применения в зоне 1, 21; MT для применения в зоне 2, 22);
- тип операционной системы (3=EAGLE (операционная система STAHL); 4=OPEN HMI (Windows, Linux OS); 5=REMOTE HMI (Windows));
- размер дисплея (0=10" VGA дисплей; 1=10" SVGA дисплей; 3=15" дисплей; 5=19" дисплей);
- 6 - фиксированный код типа;
- A - версия аппаратного обеспечения;
- Ethernet-интерфейс (FX – волоконно-оптический кабель; TX – кабель с медными жилами);
- дополнительные символы, не влияющие на конструкцию и средства обеспечения взрывозащиты.

2.2 Основные технические данные терминалов приведены в таблице 2.1.

Таблица 2.1

Наименование параметра	Значение
Маркировка взрывозащиты по ГОСТ 31610.0-2014 (IEC 60079-0:2011): - терминалы управления типа ET-**6-A-TX - терминалы управления типа ET-**6-A-FX - терминалы управления типа MT-**6-A-TX - терминалы управления типа MT-**6-A-FX	IEEx d e ia ib mb [ia ib] IIC T4 Gb X Ex ia tb [ia ib] IIC T80°C Db IEEx d e ia ib mb [ia ib op is] IIC T4 Gb X Ex ia tb [ia ib op is] IIC T80°C Db 2Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Ge X Ex ia tc [ib Db] [ic] IIC T80°C Dc 2Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Ge X Ex ia tc [ib op is Db] [ic] IIC T80°C Dc IEEx ib IIC T4 Gb
- клавиатура типа KBD(i)-PS2-***	
Напряжение питания постоянного тока, В	24
Ток, А	1,5
Внешний искробезопасный оптоволоконный интерфейс (оптоволоконный кабель (X10): - длина волны, нм - мощность излучения, не более, мВт	1350 35
Степень защиты обеспечиваемая оболочкой от внешних воздействий по ГОСТ 14254-2015 (IEC 60529:2013)	IP66
Диапазон температуры окружающей среды при эксплуатации, °С: - терминалы управления типа ET-xx6-A-*, MT-xx6-A-*, - лицевая панель терминала управления типа ET-xx6-A-*, MT-xx6-A-*, - Клавиатура типа KBD(i)-PS2-***	от минус 20 до плюс 55 от минус 30 до плюс 55 от минус 10 до плюс 60

Руководитель (уполномоченное
лицо) органа по сертификации

(подпись)

Вервеевко Татьяна Юрьевна
(Ф.И.О.)

Эксперт (эксперт-аудитор)
(эксперты (эксперты-аудиторы))

(подпись)

Хлюпин Станислав Юрьевич
(Ф.И.О.)



ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

лист 3

ПРИЛОЖЕНИЕ

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00085/19

Серия **RU** № **0708286**

2.3 Параметры искробезопасных электрических цепей приведены в таблице 2.2.

Таблица 2.2

Наименование модуля, цепи и обозначение клеммного терминала	U _i /U _o , В	I _i /I _o , А	P _i /P _o , Вт	C _i /L _i мкФ/мГн	C _o /L _o мкФ/мГн	
					Подгруппа ПС	Подгруппа ПВ
USB-0 (X4), USB-2 (X6)	-/5,9	-/2,69	-/6,02	0/0	5,1/0,01 11,0/0,05 28,0/0,02 40,0/0,01	14,0/0,05 40,0/0,02 79,0/0,01 200,0/0,05
Считывающее устройство RSi1 (X8) +Uint 1 (цепь электропитания, X8.0, при перемычке после X8.2)	-/10,4	-/0,22	-/2,29	1,72/0	0,8/0,01	-
Считывающее устройство RSi1 (X8) +U_ex1 (цепь электропитания, X8.2, при перемычке X8.0)	12,4/-	0,22/-	2,29/-	0,025/0	-	-
Считывающее устройство RSi1 (электропитание считывающего устройства, X8.3-4)	-/5,36	-/0,22	-/1,18	5,3/0	40,7/0,002 59,7/0,001	70,7/0,02 124,7/0,01
Считывающие устройства RSi1 и RSi2 (сигнальные входы и выходы, X8.5-8)	15/5,36	0,5/0,046	2,5/0,062	0/0	46,0/0,02	79,0/0,02
Считывающее устройство WCR1 (X8) (подключение напряжения питания, X8.1-2)	11,4/-	0,2/-	2,28/-	0,025/0	-	-
Считывающее устройство WCR1 (электропитание считывающего устройства, X8.3-4)	-/5,88	-/0,2	-/1,18	5,3/0	27,7/0,002 37,7/0,001	55,7/0,02 94,7/0,01
Считывающие устройства WCR1 и WCR2 (сигнальные входы и выходы, X8.5-8)	15/5,88	0,5/0,051	2,5/0,075	0/0	34,0/0,02	63,0/0,02
Интерфейс PS2 (клавиатура типа KBD(i) (X9)	-/5,88	-/0,2	-/1,18	17,6/0	15,4/0,002 25,4/0,001	10,4/0,1 20,4/0,05 43,4/0,02 82,4/0,01
Клавиатура типа KBD(i)-PS2-***	-/6	-/0,35	-/1,2	14/0	-	-

3. ОПИСАНИЕ КОНСТРУКЦИИ И СРЕДСТВ ОБЕСПЕЧЕНИЯ ВЗРЫВОЗАЩИТЫ

3.1 Описание конструкции

Конструктивно терминалы управления выполнены в виде единого блока. Внутри корпуса размещены платы электронной схемы и вспомогательные устройства. Устройство подсветки экрана, плата интерфейсов и другие электронные компоненты, размещены непосредственно в основном корпусе. На передней панели корпуса размещена клавиатура и имеется окно для экрана сенсорного дисплея, на задней стенке выполнено отделение для размещения клеммных терминалов и установки кабельных вводов.

3.2 Описание средств обеспечения взрывозащиты

Взрывозащищенность терминалов управления в зависимости от исполнения обеспечивается видом взрывозащиты "взрывонепроницаемые оболочки "d" по ГОСТ IEC 60079-1-2011, "повышенная защита вида "e" по ГОСТ 31610.7-2012/ IEC 60079-7:2006, "искробезопасная электрическая цепь "i" по ГОСТ 31610.11-2014 (IEC 60079-11:2011), оборудование с видом взрывозащиты "n" по ГОСТ 31610.15-2014/IEC 60079-15:2010, "герметизация компаундом "m" по ГОСТ Р МЭК 60079-18-2012, защита оборудования и передающих систем, использующих оптическое излучение по ГОСТ 31610.28-2012/IEC 60079-28:2006, оборудование с защитой от воспламенения пыли оболочками "t" по ГОСТ IEC 60079-31-2013, а также выполнением конструкции в соответствии с требованиями ГОСТ 31610.0-2014 (IEC 60079-0:2011).

4. СПЕЦИАЛЬНЫЕ УСЛОВИЯ ПРИМЕНЕНИЯ «X»

Знак «X» в маркировке взрывозащиты терминалов управления указывает на их специальные условия применения, заключающиеся в следующем:

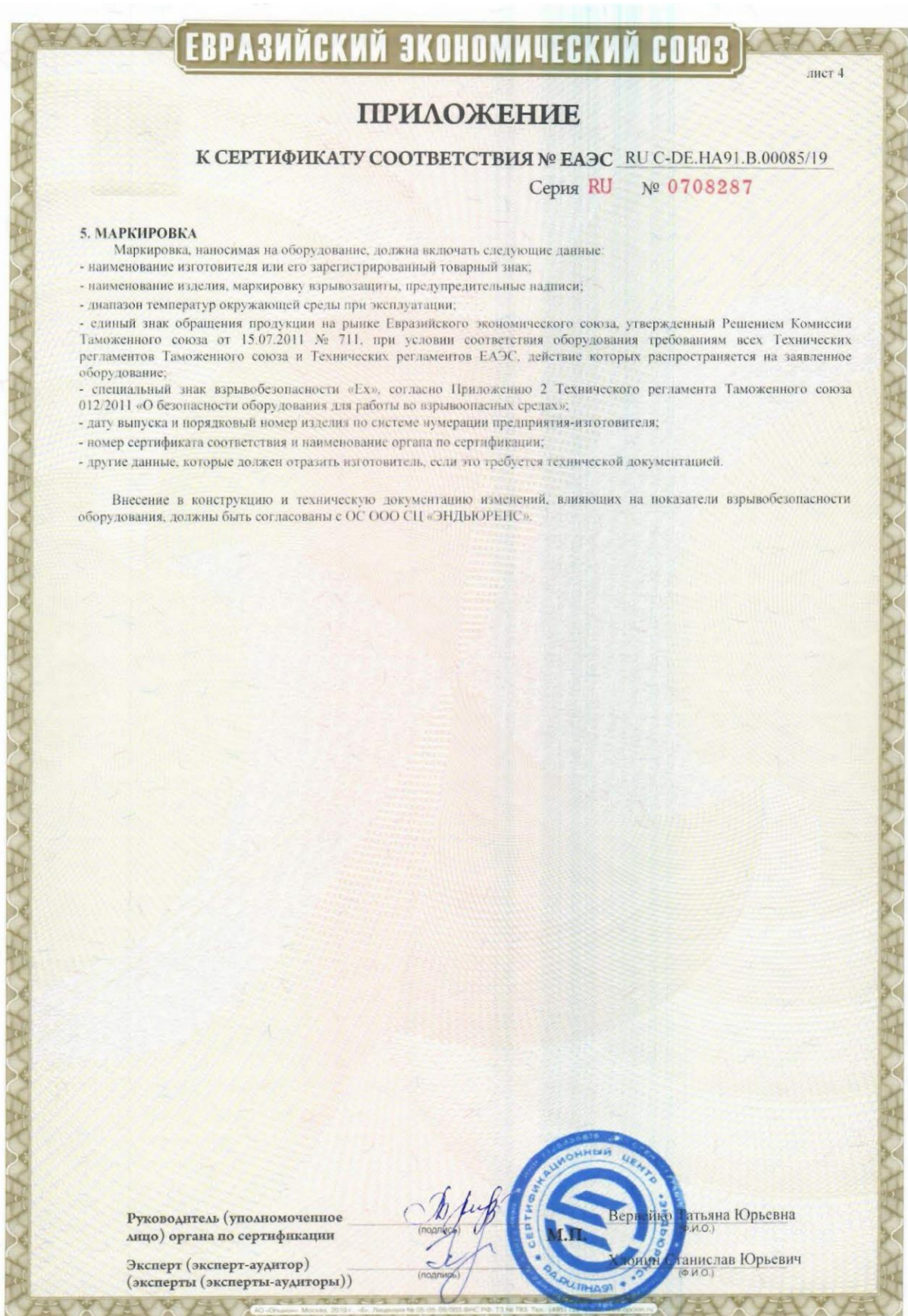
- элементы и схемы, обеспечивающие искробезопасное исполнение, ремонту не подлежат и при выходе из строя должны заменяться новыми, поставляемыми изготовителем;
- при подключении заземления должно быть обеспечено уравнивание потенциалов между всеми блоками, объединенными в единую искробезопасную цепь;
- чистку от нанесенной на дисплеи терминалов защитной пленки разрешается производить только с помощью влажной ветоши;
- монтаж, эксплуатация и техническое обслуживание должно осуществляться в соответствии с требованиями эксплуатационной документации, ГОСТ IEC 60079-14-2013 и другими нормативными документами, регламентирующими правила по установке и обслуживанию оборудования для использования в потенциально взрывоопасных зонах (средах).

Руководитель (уполномоченное лицо) органа по сертификации

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))

Вервейко Татьяна Юрьевна (Ф.И.О.)
М.П.
Хлюпин Станислав Юрьевич (Ф.И.О.)





4.1 Declaration of conformity



ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ ДЕКЛАРАЦИЯ О СООТВЕТСТВИИ



Заявитель: Общество с ограниченной ответственностью «Р. ШТАЛЬ».

Основной государственный регистрационный номер: 5087746541493.

Место нахождения (адрес юридического лица) и адрес (адреса) места осуществления деятельности: 129085, Россия, Бульвар звездный, дом 21, строение 1; номер телефона: +74956150473, адрес электронной почты: info@stahl.ru.com.

в лице генерального директора Махмудова Александра Джамаледдиновича

заявляет, что Терминалы управления серий ET и MT: ET-**6-A-FX-***, ET-**6-A-TX-***, MT-**6-A-TX-***, MT-**6-A-FX-***

изготовитель: R.STAHL HMI Systems GmbH,

Место нахождения и адрес места осуществления деятельности по изготовлению продукции: Adolf-Grimme-Allee 8, 50829 Koeln, Германия.

Продукция изготовлена в соответствии с технической документацией изготовителя R.STAHL HMI Systems GmbH.

Код ТН ВЭД ЕАЭС: 8537109900

Серийный выпуск.

соответствует требованиям

Технического регламента Таможенного союза ТР ТС 020/2011 "Электромагнитная совместимость технических средств"

Декларация о соответствии принята на основании Протоколов заводских испытаний № 1156 от 02.08.2019, 1187 от 07.08.2019 испытательной лаборатории R.STAHL HMI Systems GmbH; руководства по эксплуатации.

Схема декларирования Id.

Дополнительная информация

Стандарты, в результате применения которых на добровольной основе обеспечивается соблюдение требований технического регламента: раздел 8 ГОСТ 30804.6.2-2013 "Совместимость технических средств электромагнитная. Устойчивость к электромагнитным помехам технических средств, применяемых в промышленных зонах. Требования и методы испытаний"; раздел 7 ГОСТ 30804.6.4-2013 "Совместимость технических средств электромагнитная. Электромагнитные помехи от технических средств, применяемых в промышленных зонах. Нормы и методы испытаний". Условия хранения, срок хранения и срок службы в соответствии с эксплуатационной документацией изготовителя.

Декларация о соответствии действительна с даты регистрации по 08.09.2024 включительно.



Махмудов Александр Джамаледдинович

(Ф.И.О. заявителя)

Регистрационный номер деклараций о соответствии: ЕАЭС № RU Д-ДЕ.НА91.В.00014/19

Дата регистрации декларации о соответствии: 09.09.2019



**EURASIAN ECONOMIC UNION
DECLARATION OF CONFORMITY**



Applicant: Limited Liability Company «R.Stahl».

The main state registration number is 5087746541493.

Location (address of the legal entity) and the address of the place of business: 129085, Russia, Moscow, Zvezdny Boulevard, building 21, building 1; phone number: +74956150473, E-mail address: info@stahl.ru.com.

represented by General Director Makhmudov Alexander Dzhamaleddinovich

declares that Control terminals of series ET and MT: ET-**6-A-FX-**, ET-**6-A-TX-**, MT-**6-A-TX-**, MT-**6-A-FX-**

manufacturer: R.STAHL HMI Systems GmbH,

Location (address of the legal entity) and address of the place of business activity: Adolf-Grimme-Allee 8, 50829 Koeln, Germany.

Products manufactured in accordance with the technical documentation R.STAHL HMI Systems GmbH.

HS Code: 8537109900

Serial release.

meets the requirements

Technical Regulations of the Customs Union TR CU 020/2011 " Electromagnetic compatibility of technical means".

The declaration of conformity was adopted on the basis of Test Reports № 1156 от 02.08.2019, 1187 от 07.08.2019 of the Testing Laboratory of the R.STAHL HMI Systems GmbH; operation manuals.

Declaration scheme 1d.

Additional Information

Standards, as a result of which voluntary compliance with technical regulation requirements is ensured: Section 8 GOST 30804.6.2-2013 "Electromagnetic compatibility of technical equipment. Immunity to electromagnetic interference of technical equipment used in industrial zones. Requirements and test methods"; Section 7 GOST 30804.6.4-2013 "Electromagnetic compatibility of technical equipment. Electromagnetic interference from technical equipment used in industrial zones. Standards and test methods." Storage conditions, shelf life and service life in accordance with the manufacturer's operational documentation.

The declaration of conformity is valid from the date of registration to 08.09.2024 inclusive.

(Signature)



Stamp


Makhmudov Alexander Dzhamaleddinovich

(full name the Applicant)

Registration number of the declaration of conformity: EAЭС № RU Д-DE.HA91.B.00014/19

Date of registration of the declaration of conformity: 09.09.2019

5 CNEX certificate



国家防爆

Electrical Apparatus for Explosive Atmospheres

CERTIFICATE OF CONFORMITY

Cert. No.: CNEx19.0701X


Manufacturer	R. STAHL HMI Systems GmbH Adolf-Grimme-Allee 8, D-50829 Köln, Germany
Name of Product	Operator Interface
Type of Product	MT-**6-A-*.***
Marking	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc and Ex ia tD A22 [ibD] [ic] IP66 T80°C for type code TX Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc and Ex ia tD A22 [ibD op is] [ic] IP66 T80°C for type code FX see attachment and manual for alternative marking
Drawing No.	-


The drawings, technical documents and the samples are verified and certified according to standard(s) for safety as below:

GB 3836.1-2010	Explosive atmospheres - Part 1: Equipment - General requirements
GB 3836.2-2010	Explosive atmospheres - Part 2: Equipment protection by flameproof enclosure "d"
GB 3836.3-2010	Explosive atmospheres - Part 3: Equipment protection by increased safety "e"
GB 3836.4-2010	Explosive atmospheres - Part 4: Equipment protection by intrinsic safety "i"
GB 3836.8-2014	Explosive atmospheres - Part 8: Equipment protection by type of protection "n"
GB 3836.9-2014	Explosive atmospheres - Part 9: Equipment protection by encapsulation "m"
GB/T3836.22-2017	Explosive atmospheres - Part 22: Protection of equipment and transmission systems using optical radiation
GB12476.1-2013	Electrical apparatus for use in the presence of combustible dust - Part 1: General requirements
GB12476.4-2010	Electrical apparatus for use in the presence of combustible dust - Part 4: Protection by intrinsic safety "iD"
GB12476.5-2013	Electrical apparatus for use in the presence of combustible dust - Part 5: Protection by enclosures "tD"

Note

1. Temperature range: -30°C ≤ Ta ≤ +55°C at front of unit, -20°C ≤ Ta ≤ +55°C at rear of unit
2. Ingress protection: IP66
3. This certificate is only valid in combination with the related Annex
4. Please read and understand the special conditions for safe use as stated in the Annex to this certificate
5. This certificate is renewal of certificate CNEx14.0049X.


Valid Date	From Jan 13, 2019 to Jan 12, 2024
Issue Date	Jan 13, 2019
Director	



Ex
CQST
NAN YANG

**CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTRE
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS**

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Electrical Apparatus for Explosive Atmospheres

CERTIFICATE OF CONFORMITY

Annex to Cert. No.: CNEx19.0701X

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This Annex to certificate CNEx 19.0701X covers the following model: Type ET-**-6-A-**-***.
 This product has been certified, under certificate number IECEx TUR 11.0015X, issue 2, dated 2013-07-03.

Product Description:

The Exicom MT-xx6-A devices are operator interfaces or panel PCs for installation in Zones 2 and 22 hazardous locations with outputs for Zone 1 and 21. The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazloc certified cabinets. The different models vary in display size (10" to 15" and 19") and overall size, front panel with or without keyboard and overall functionality. Three main functionalities are (characterized by the first type code number):

MT-3x6-A: STAHL operating system for user application;

MT-4x6-A: Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications;

MT-5x6-A: Windows Embedded Standard operating system for remote applications. Internal construction of all devices is equal for most parts for all models. All models have several interfaces to connect external devices as keyboards, joysticks, trackballs, RFID- or barcode-scanner etc. Communication with PLC networks and automation systems are achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the termination compartment at the back of the devices.

Assembling of accessory as USB memory sticks and hard disk drives is previewed.

Code for type of protection:

Type code -TX-	Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc
	Ex ia tD A22 [ibD] [ic] IP66 T80°C
Type code -FX-	Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
	Ex ia tD A22 [ibD op is] [ic] IP66 T80°C

Issue Date Jan 13, 2019

Director



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Electrical Apparatus for Explosive Atmospheres
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Technical data:

Operating temperature range: -30°C ≤ Ta ≤ +55°C at front of unit
 -20°C ≤ Ta ≤ +55°C at rear of unit
 IP code pf enclosure IP66
 The device may be installed and operated in any position

Electrical Parameters:

MT	-	*	*	6	-	A	-	*	-	***
1		2	3	4		5		6		7
1	Device for zone 2 and 22									
2	Type Code:	3=EAGLE(STAHL Operating System) 4=OPEN HMI(Windows, Linux OS) 5=REMOTE HMI(Windows remote operating system)								
3	Size Code:	0=10" VGA display 1=10" SVGA display 3=15" display 5=19" display								
4	Family code fixed to 6									
5	Reversion 3									
6	FX=Fiber optic LAN TX=Copper wire LAN									
7	*HDn*=equipped with hard disk drive(memory size n) and or *SR*=Sunlight Readable display and or additional information(not relevant to Ex)									

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Electrical data:

External, non-intrinsically safe circuit

1. Input voltage (X1)
 Rated voltage 24 VDC (+20% /-15%)
 max. voltage Um 30 VAC
 Rated current 1.5 A
2. RS-422/-232 COM 1 (X2)
 Rated voltage RS232: ± 12 VDC RS422: 5 VDC
 max. voltage Um 253 VAC
3. Audio out (X3)
 Rated voltage 5 VDC
 max. voltage Um 253 VAC
4. USB-1 (X5)
 Rated voltage 5 VDC
 max. voltage Um 253 VAC
5. USB-3 (X7)
 Rated voltage 5 VDC
 max. voltage Um 253 VAC
6. LAN (X11)
 Rated voltage 5 VDC
 max. voltage Um 30 VAC
7. RS-422/-232 COM 2-3 (X22)
 Rated voltage RS232: ± 12 VDC RS422: 5 VDC
 max. voltage Um 253 VAC

Issue Date Jan 13, 2019

Director



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External intrinsically safe circuits

(Superposed L and C values are allowed combinations, calculated with ispark.) The intrinsically safe circuits may be interfaced either to devices in Zone 1 / 21 as ib circuits or to devices in Zone 2 / 22 as ic circuits. The corresponding is parameters shall be regarded:

1. USB-0 (X4) and USB-2 (X6)

Uo = 5.9 V

Io = 2.69 A Summed current when all connections from USB-0 (USB- 2) are short-circuited to GND.

Po = 6.02 W Power available when all connections from USB-0 (USB- 2) are short-circuited to GND.

a) Maximum values calculated with ispark, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.01 0.005 0.002 0.001 mH

Ci = 0 µF Co = 5.1 11 28 40 µF

Maximum values calculated with ispark, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.05 0.02 0.01 0.005 mH

Ci = 0 µF Co = 14 40 79 200 µF

b) Maximum values calculated with ispark, rectangular source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.01 0.005 0.002 0.001 mH

Ci = 0 µF Co = 10 22 72 670 µF

Maximum values calculated with ispark, rectangular source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.05 0.02 0.01 0.005 mH

Ci = 0 µF Co = 29 84 190 770 µF

2. ET-Reader-2-RSi1 and RSi2 (X8)

Reader-2-RSi1 module supply (internal UB_RDR output), terminal X8.0 (bridged to X8.2)

Uo = 10.4 V Io = 220 mA Po = 2.29 W

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a) Maximum values calculated with ispark, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.01 mH
 Ci = 1.72 μF Co = 0.8 μF

(Remark: no values for IIB as connection to X8.2 are already permitted with level IIC parameters.)

b) Maximum values calculated with ispark, rectangular source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.01 mH
 Ci = 1.72 μF Co = 4.68 μF

(Remark: no values for IIB as connection to X8.2 are already permitted with level IIC parameters.)

Reader-2-RSi1 module supply input, terminal X8.2 (bridged to X8.0)

Ui = 12.4 V li = 220 mA Pi = 2.29 W
 Li = 0 mH Ci = 25 nF

Reader-2-RSi1 power supply for reader, terminals X8.3-4

Uo = 5.36 V lo = 220 mA Po = 1.18 W

a) Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002 0.001 mH
 Ci = 5.3 μF Co = 40.7 59.7 μF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02 0.01 mH
 Ci = 5.3 μF Co = 70.7 124.7 μF

b) Maximum values, rectangular source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.002 0.001 mH
 Ci = 5.3 μF Co = 124.7 994.7 μF

Maximum values, rectangular source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.002 0.001 mH
 Ci = 5.3 μF Co = 154.7 324.7 μF

Issue Date Jan 13, 2019

Director



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Reader-2-Rsi1 and -Rsi2 signal input/output, terminals X8.5 - 8

U _i = 15 V	U _o = 5.36 V
I _i = 500 mA	I _o = 46 mA
P _i = 2.5 W	P _o = 62 mW

a) Maximum values, linear source for Zone 1 Group IIC:

L _i = 0 mH	L _o = 0.002 mH
C _i = 0 µF	C _o = 46 µF

Maximum values, linear source for Zone 1 Group IIB:

L _i = 0 mH	L _o = 0.02 mH
C _i = 0 µF	C _o = 79 µF

b) Maximum values, linear source for Zone 2 Group IIC:

L _i = 0 mH	L _o = 0.002 mH
C _i = 0 µF	C _o = 130 µF

Maximum values, linear source for Zone 2 Group IIB:

L _i = 0 mH	L _o = 0.002 mH
C _i = 0 µF	C _o = 160 µF

3. ET-Reader-2-WCR1 and WCR2 (X8)

Reader-2-WCR1 module supply (from external is-power supply) terminal X8.1 - 2

U _i = 11.4 V	I _i = 200 mA	P _i = 2.28 W
L _i = 0 mH	C _i = 25 nF	

Reader-2-WCR1 power supply for reader, terminals X8.3 - 4

U _o = 5.88 V	I _o = 200 mA	P _o = 1.18 W
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a) Maximum values, rectangular source for Zone 1 Group IIC:
 Li = 0 mH Lo = 0.002 0.001 mH
 Ci = 5.3 μF Co = 27.7 37.7 μF

Maximum values, rectangular source for Zone 1 Group IIB:
 Li = 0 mH Lo = 0.02 0.01 mH
 Ci = 5.3 μF Co = 55.7 94.7 μF

b) Maximum values, rectangular source for Zone 2 Group IIC:
 Li = 0 mH Lo = 0.002 0.001 mH
 Ci = 5.3 μF Co = 80.7 664.7 μF

Maximum values, rectangular source for Zone 2 Group IIB:
 Li = 0 mH Lo = 0.002 0.001 mH
 Ci = 5.3 μF Co = 114.7 234.7 μF

Reader-2-WCR1 and -WCR2 signal input/output, X8.5 - 8

Ui = 15 V Uo = 5.88 V
 Ii = 500 mA Io = 51 mA
 Pi = 2.5 W Po = 75 mW

a) Maximum values, linear source for Zone 1 Group IIC:
 Li = 0 mH Lo = 0.002 mH
 Ci = 0 μF Co = 34 μF

Maximum values, linear source for Zone 1 Group IIB:
 Li = 0 mH Lo = 0.02 mH
 Ci = 0 μF Co = 63 μF

b) Maximum values, linear source for Zone 2 Group IIC:
 Li = 0 mH Lo = 0.002 mH
 Ci = 0 μF Co = 87 μF

Maximum values, linear source for Zone 2 Group IIB:
 Li = 0 mH Lo = 0.002 mH
 Ci = 0 μF Co = 130 μF

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Keyboard & Pointing device (X9)

U_o = 5.88 V
 I_o = 200 mA
 P_o = 1.18 mW

a) Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0	mH	Lo = 0.002	0.001	mH
Ci = 17.6	µF	Co = 15.4	25.4	µF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0	mH	Lo = 0.1	0.05	0.02	0.01	mH
Ci = 17.6	µF	Co = 10.4	20.4	43.4	82.4	µF

b) Maximum values, rectangular source for Zone 2 Group IIC:

Li = 0	mH	Lo = 0.002	0.001	mH
Ci = 17.6	µF	Co = 68.4	652.4	µF

Maximum values, rectangular source for Zone 2 Group IIB:

Li = 0	mH	Lo = 0.1	0.05	0.02	0.01	mH
Ci = 17.6	µF	Co = 33.4	53.4	102.4	222.4	µF

External inherently safe optical interface X10

Wavelength = 1350 nm
 radiant power ≤ 35 mW

Special conditions for safe use

The fronts of the operator interfaces with a sunlight readable display (type code includes "SR") and the other models if an additional film is applied to the front may be cleaned with a damp cloth only. The additional warning advice label shall be applied at or near the device.

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6 Release Notes

The chapter entitled "Release Notes" contains all the changes made in every version of the certificates.

Version 03.02.00

- First edition for devices HW-Rev. 3, 2nd Supplement

Version 03.02.01

- Addition of EC-Declaration of Conformity
- Addition of Hardware revision part "12" and "22" (5-wire touch) at first page

Version 03.02.02

- Addition of CNEX certificate

Version 03.02.03

- Addition of TR (Russia / Kazakhstan / Belarus) certificate instead of CKT
- Removal of CKT certificate and operating licence
- Formal corrections

Version 03.02.04

- Changing HW Rev. style at titel page
- Addition of HW Rev. for BS at titel page
- Changing address and phone numbers

Version 03.02.05

- Update of CNEX certificate
- Removal of EC Declaration of conformity, because it's in the operating instruction
- Formal changes

Version 03.02.06

- Update of EAC certificate
- Addition of EAC Declaration of conformity
- Formal changes

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