Certificates

Device platform EAGLE

ET-xx6-A

SERIES 300 Operator Interfaces
SERIES 400 Panel PC
SERIES 500 Thin Clients

STAHL
THE STRONGEST LINK.

HW-Rev. ET-xx6-A-FX:	**03.00.13**
HW-Rev. ET-xx6-A-TX:	**03.00.23**
HW-Rev. ET-xx6-A-FX-BT:	**03.00.18**
HW-Rev. ET-xx6-A-TX-BT:	**03.00.28**
HW-Rev. ET-3x6-A-FX-BS:	**03.00.19**
HW-Rev. ET-3x6-A-TX-BS:	**03.00.29**

Certificates version:	**03.00.25**
Issue date:	**28.08.2024**

Disclaimer

Publisher and copyright holder:

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Table of contents

1 Preface

NOTICE	This document contains all valid certificates for the ET-xx6-A product line. 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 7041 X

(4) Equipment: **Operator Interface** **Type: ET-**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 041.00 / 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**

(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 2 (2) G	Ex d e ia ib mb [ia ib] IIC T4 Gb	for type code TX
II 2 (2) D	Ex ia tb [ia ib] IIIC T80°C Db IP66	for type code TX
II 2 (2) G	Ex d e ia ib mb [ia ib op is] IIC T4 Gb	for type code FX
II 2 (2) D	Ex ia tb [ia ib op is] IIIC T80°C Db IP66	for type code FX

TÜV Rheinland Ex Notified Body Cologne, 25th May 2011

Dipl.- Ing. Heinz Farke

Translation!
This EC-Type Examination Certificate shall not be valid without signature and stamp.
This 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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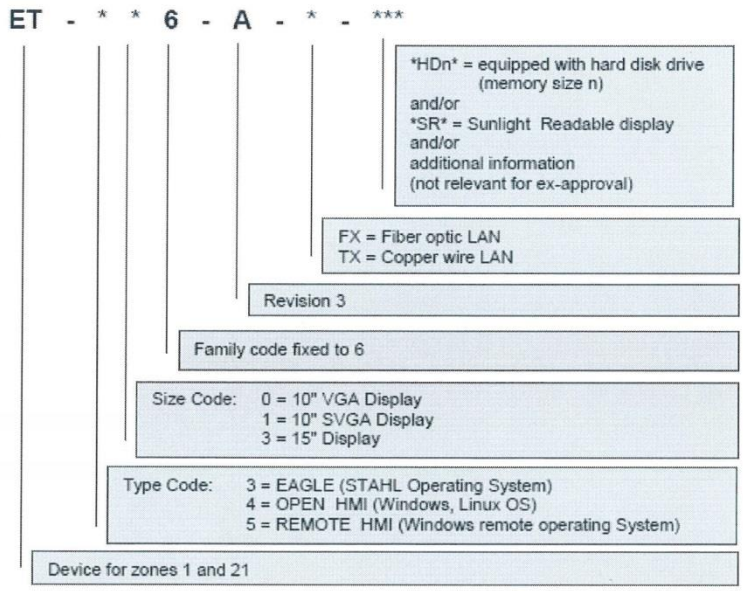
(13) Annex to

(14) **EC - Type Examination Certificate**
TÜV 11 ATEX 7041 X

(15) **Description of Equipment**

15.1 Article / Type Code



The Exicom ET-**6-A-*-*** devices are operator interfaces or panel PCs for installation in hazardous locations classified for zones 1, 2, 21 and 22.
The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazardous locations 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, not ex-relevant):

ET-3*6-A-*-***:	STAHL operating system for user application;
ET-4*6-A-*-***:	Standard operation system (e.g. Windows Embedded, Linux etc.) for standard applications;
ET-5*6-A-*-***:	Windows Embedded Standard operating system for remote applications.

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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 is achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the "Ex-e"-area at the back of the devices.

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

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

Input voltage (X1)

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

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

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LAN (X11)

Rated voltage	5 VDC
max. voltage Um	30 VAC

External intrinsically safe circuits

Co and Lo pairs directly above/underneath each other may be used.

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.

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

Uo = 5.9 V

Io = 2.18 A

Po = 1.24 W

Maximum values, 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	43 µF

Maximum values, 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

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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Maximum values, 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 available for connection to X8.2.
The level IIC provides sufficient parameters.

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

Ui	=	12.4	V
Ii	=	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
Io	=	220	mA
Po	=	1.18	W

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

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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

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

Ui	=	15	V	Uo	=	5.36	V
Ii	=	500	mA	Io	=	46	mA
Pi	=	2.5	W	Po	=	62	mW

Maximum values, linear source for Zone 1 Group IIC:

Li	=	0	mH	Lo	=	0.002	mH
Ci	=	0	µF	Co	=	46	µF

Maximum values, linear source for Zone 1 Group IIB:

Li	=	0	mH	Lo	=	0.02	mH
Ci	=	0	µF	Co	=	79	µF

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

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

Ui	=	11.4	V
Ii	=	200	mA
Pi	=	2.28	W

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Li = 0 mH

Ci = 25 nF

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

Uo = 5.88 V

Io = 200 mA

Po = 1.18 W

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

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

Maximum values, linear source for Zone 1 Group IIC

Li	=	0	mH	Lo	=	0.002	mH
Ci	=	0	µF	Co	=	34	µF

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Maximum values, linear source for Zone 1 Group IIB:

Li	=	0	mH	Lo =	0.02 mH
Ci	=	0	µF	Co =	63 µF

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

Uo	=	5.88	V
Io	=	200	mA
Po	=	1.18	W

Maximum values, rectangular source for Zone 1 Group IIC

Li	=	0	mH	Lo =	2	1	µH
Ci	=	17.6	µF	Co =	15.4	25.4	µF

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

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

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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

External inherently safe optical interface X10

Wavelength	=	1350 nm
radiant power	≤	35 mW

(16) **Test Report No.** 557 / Ex 041.00 / 11

(17) **Special Conditions for safe use**

For ET - * * 6 - A - * - *SR* :
The front of the operator interface equipped 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 Rheinland Ex Notified Body

Cologne, 25th May 2011

Dipl.- Ing. Heinz Farke

TÜVRheinland® 0035 Notified Body

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 7041 X

Device: Operator Interface Type: ET-**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 / Standard basis: IEC 60079-0: 2011 ; IEC 60079-1: 2007; IEC 60079-7: 2006; IEC 60079-11: 2011 IEC 60079-18: 2009; IEC 60079-28: 2006 IEC 60079-31: 2008

Schutzartkennzeichnung / Code for type of protection

Type code -TX-		II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb
	alternative	II 2 (2) G Ex db eb ia ib mb [ia ib] IIC T4
		II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66
	alternative	II 2 (2) D Ex ia tb [ia ib] IIIC T80°C IP66
Type code -FX-		II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
	alternative	II 2 (2) G Ex db eb ia ib mb [ia ib op is] IIC T4
		II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66
	alternative	II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C IP66

This 1st supplement to the EC-Type-Examination Certificate without signature and official stamp shall not be valid. The certifcate may be circulated only without alteration. Extracts or alterations are subject to approval by
TÜV Zertifizierungsstelle of TÜV Rheinland Industrie Service GmbH
In case of dispute, the German text shall prevail
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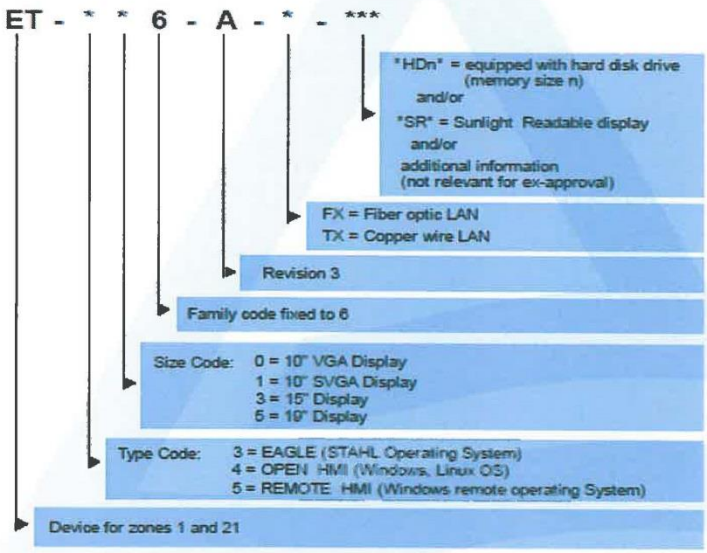
Relevant for user:

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

Internal changes nor 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:



The Exicom ET-**6-A-*-*** devices are operator interfaces or panel PCs for installation in hazardous locations classified for zones 1, 2, 21 and 22.

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

The different models vary in display size (10" ; 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, not ex-relevant):

ET-3*6-A-*-***: STAHL operating system for user application;

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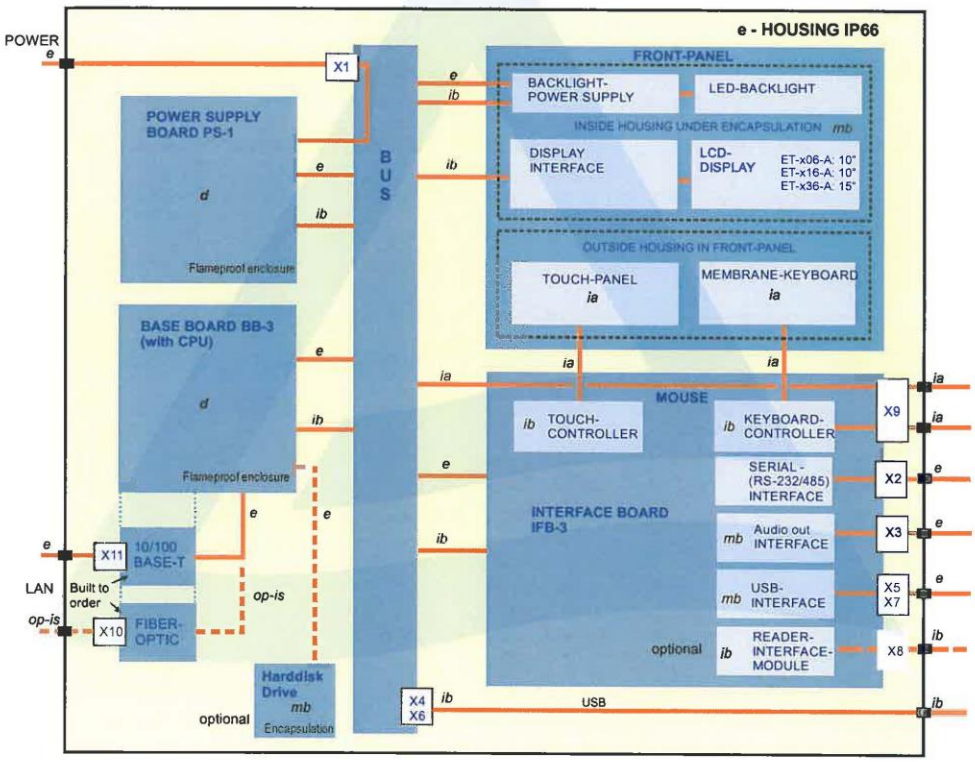
Internal construction of all devices is equal for most parts for all models.

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 is achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the "Ex-e"-area at the back of the devices.

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



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

Technical data

All data unchanged.

(16) Test Report No. 557 / Ex 041.01 / 11

(17) Special conditions for safe use

For ET - * * 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, 2011-12-16

Dipl.-Ing. Heinz Farke

TÜV Rheinland 0035 Notified Body

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In case of dispute, the German text shall prevail
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3 IECEx certificate

3.1 Issue No3

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx TUR 11.0006X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 3	Issue 2 (2012-11-28) Issue 1 (2011-12-16) Issue 0 (2011-05-25)
Date of Issue:	2021-08-18		
Applicant:	**R. STAHL HMI Systems GmbH** Adolf-Grimme Allee 8 50829 Cologne **Germany**		
Equipment:	**Operator Interface ET-***6-A-*-*****		
Optional accessory:			
Type of Protection:	**d, e, i, iD, m, op is, t**		
Marking:	Type -TX Ex db eb ia ib mb [ia ib] IIC T4 Gb Ex ia tb [ia ib] IIIC T80°C IP66 Db Type -FX Ex db eb ia ib mb [ia ib op is] IIC T4 Gb Ex ia tb [ia ib op is] IIIC T80°C IP66 Db		

Approved for issue on behalf of the IECEx Certification Body: **Christian Mehrhoff**

Position: **Assigned certifier**

Signature: (for printed version)

Date: 2021-08-18

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 www.iecex.com or use of this QR Code.

Certificate issued by:

TUV Rheinland Industrie Service GmbH
Am Grauen Stein
51105 Cologne
Germany

TÜVRheinland

IECEx Certificate of Conformity

Certificate No.: **IECEx TUR 11.0006X** Page 2 of 4

Date of issue: 2021-08-18 Issue No: 3

Manufacturer: **R. STAHL HMI Systems GmbH**
Adolf Grimme Alee 8
50829 Cologne
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with 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/ExTR11.0006/03

Quality Assessment Report:

DE/BVS/QAR06.0007/12

IECEx Certificate of Conformity

Certificate No.: **IECEx TUR 11.0006X** Page 3 of 4

Date of issue: 2021-08-18 Issue No: 3

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

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 is achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the "Ex-e"-area at the back of the devices.Assembling of accessory as USB memory sticks and hard disk drives is previewed.

SPECIFIC CONDITIONS OF USE: YES as shown below:
For ET - * * 6 - A - * - *SR* :

The front of the operator interface equipped 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 11.0006X** Page 4 of 4

Date of issue: 2021-08-18 Issue No: 3

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- New address
- New manual
- The hard disk TÜV 08 ATEX 7504 U is omitted
- Check of the suitability of the used ex components
- New marking

Update of the following standards:

- IEC 60079-0:2017 Ed. 7
- IEC 60079-1:2014 Ed. 7
- IEC 60079-18:2017 Ed. 4.1
- IEC 60079-28:2015 Ed 2
- IEC 60079-31:2013 Ed 2
- IEC 60079-7:2017 Ed. 5.1

Annex:

Attachment_IECEx TUR 11-0006X_03_21-08-18.pdf

Attachment to Certificate
IECEx TUR 11.0006
Revison 3

Attachment to Certificate IECEx TUR 11.0006/03

Device: Operator Interface Type: ET-**6-A-*-***

Manufacturer: R. Stahl HMI Systems GmbH

Address: Adolf-Grimme-Allee 8 50829 Köln, Germany

Code for type of protection	Type code -TX-	Ex db eb ia ib mb [ia ib] IIC T4 Gb
		Ex ia tb [ia ib] IIIC T80°C IP66 Db
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		Ex ia tb [ia ib op is] IIIC T80°C IP66 Db

General product information:

Description of changes

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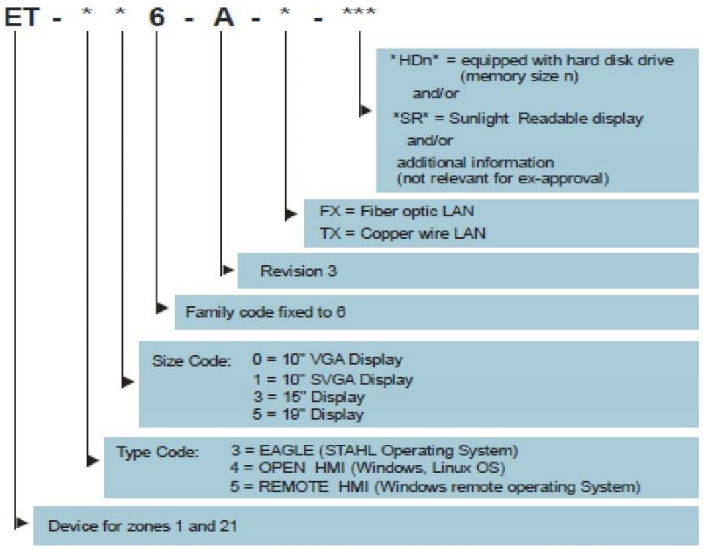
- IEC 60079-1:2014 Ed. 7
- IEC 60079-18:2017 Ed. 4.1
- IEC 60079-28:2015 Ed 2
- IEC 60079-31:2013 Ed 2
- IEC 60079-7:2017 Ed. 5.1

TÜV Rheinland Industrie Service GmbH Am Grauen Stein 51105 Köln
Tel. +49 (0) 221 806-0 Fax + 49 (0) 221 806 114

Attachment to Certificate
IECEx TUR 11.0006
Revison 3

Type code:



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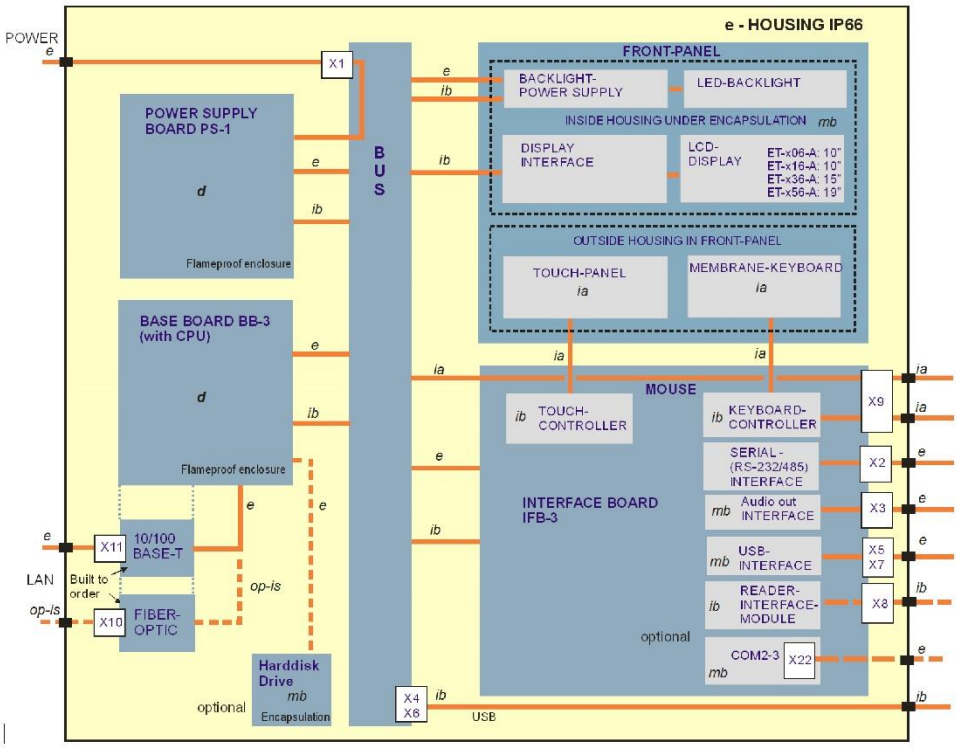
Attachment to Certificate
IECEx TUR 11.0006
Revison 3

Block structure is internal only:



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

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 of enclosure:	IP 66

The device may be installed and operated in any position

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3.1 Electrical Parameter:

3.1.1 External, non-intrinsically safe circuits

Input voltage (X1)	
Rated voltage	24 VDC (+20% /-15%)
max. voltage Um	30 VAC
Rated current	1.5 A
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
RS-422/-232 COM 2-3 (X22)	
Rated voltage	RS232: ±12 VDC
	RS422: 5 VDC
max. voltage	Um253 VAC

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3.1.2 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.

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.

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.

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

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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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.)

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

Ui	=	12.4	V
Ii	=	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
Io	=	220	mA
Po	=	1.18	W

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

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

Ui	=	15	V	Uo	=	5.36	V
Ii	=	500	mA	Io	=	46	mA
Pi	=	2.5	W	Po	=	62	mW

Maximum values, linear source for Zone 1 Group IIC:

Li	=	0	mH	Lo	=	0.002	mH
Ci	=	0	µF	Co	=	46	µF

Maximum values, linear source for Zone 1 Group IIB:

Li	=	0	mH	Lo	=	0.02	mH
Ci	=	0	µF	Co	=	79	µF

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

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

Ui	=	11.4	V
Ii	=	200	mA
Pi	=	2.28	W
Li	=	0	mH
Ci	=	25	nF

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

Uo	=	5.88	V
Io	=	200	mA
Po	=	1.18	W

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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

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

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

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

Uo	=	5.88	V
Io	=	200	mA
Po	=	1.18	W

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Revison 3

Maximum values, rectangular source for Zone 1 Group IIC

Li	=	0	mH	Lo	=	2	1	µH	
Ci	=	17.6	µF	Co	=	15.4	25.4	µF	

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

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

3.1.2 External inherently safe optical interface X10

Wavelength	=	1350 nm
radiant power	≤	35 mW

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4 NEC certificate

CERTIFICATE OF COMPLIANCE

Certificate Number	20130611-E202379
Report Reference	E202379-20101105
Issue Date	2013-JUNE-11
Issued to:	R STAHL HMI SYSTEMS GMBH IM GEWERBEGEBIET PESCH 14 50767 COLOGNE GERMANY
This is to certify that representative samples of	PROGRAMMABLE CONTROLLERS FOR USE IN HAZARDOUS LOCATIONS See Addendum Page
	Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.
Standard(s) for Safety:	ANSI/ISA 12.12.01, 2012, Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations; UL 508, Industrial Control Equipment; UL 50E, Enclosures for Electrical Equipment, Environmental Considerations
Additional Information:	See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Listing Mark should be considered as being covered by UL's Listing and Follow-Up Service.

The UL Listing Mark generally includes the following elements: the symbol UL in a circle: (UL) with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product.

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number	20130611-E202379
Report Reference	E202379-20101105
Issue Date	2013-JUNE-11

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Class I, Division 2, Groups A, B, C and D; Class II, Division 2, Groups F and G; Class III Hazardous Locations

ProVicom Open HMI, Model Nos. MT-306, -316, -336, may be followed by S–Fx, S-Tx, S-RSi or S–WCRi; MT-406, -416, -436 or
-456, may be followed by –Fx, -Tx, -4GB, -8GB, -16GB, -60GB,
-120GB, -HB (MT-436 only), -RS or –WCR; MT-536 or –556 may be followed by –Fx, -Tx, -HB, -RSi, -VA or –WCR; provides nonincendive field wiring per Control Drawing No. 20101170000.

Exicom Open HMI, Model Nos. ET-306, -316 or -336, may be followed by –Fx, -Tx, -RSi or –WCRi; ET-406, -416, -436 or
-456, may be followed by –Fx, -Tx, -4GB, -8GB, -16GB, -60GB,
-120GB, -HB (ET-436 only), -RSi or –WCRi; ET-536 or –556, may be followed by –Fx, -Tx, -HB, -RSi, -VA or –WCRi; provides nonincendive field wiring per Control Drawing No. 20101170000.

Exicom Open HMI, Model Nos. ET, followed by -3, -4, or -5, followed by 0, 1, 3, or 5, followed by 6, followed by –A, followed by -FX or -TX, followed by -*SR* or -*HDn*, may be followed by additional numbers, letters, and characters that are not safety critical, provides nonincendive field wiring per Control Drawing No. 201133510.

Exicom Open HMI, Model Nos. MT, followed by -3, -4, or -5, followed by 0, 1, 3, or 5, followed by 6, followed by –A, followed by -FX or -TX, followed by -*SR* or -*HDn*, may be followed by additional numbers, letters, and characters that are not safety critical, provides nonincendive field wiring per Control Drawing No. 201133510.

William R. Carney

William R. Carney, Director, North American Certification Programs

UL LLC

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5 CEC certificate

CSA Group

Certificate of Compliance

Certificate: 2512677 **Master Contract:** 213004

Project: 2512677 **Date Issued:** July 25, 2012

Issued to: **R. STAHL HMI Systems GmbH**

Im Gewerbegebiet Pesch 14
Koeln, 50767
Germany
Attention: Werner Bertges

The products listed below are eligible to bear the CSA Mark shown

Andrew Sargent

Issued by: Andrew Sargent

PRODUCTS

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

Ex d e ia ib mb [ia ib] IIC T4 Gb, Type 4X, IP66.

Class II, Division 1, Groups E, F, G, T80°C;Ex ia tb [ia ib] IIIC T80°C Db, IP66.

Exicom Operator Interface – Models ET-ab6-A-cc-ddd. Rated 24V dc, 1.5A.

Ambient temperature rated -30°C to 55°C at front of unit, and -20°C to 55°C at rear of unit.

Where:

a = Operating System

3 Stahl Eagle operating system

4 Standard operating system – Open HMI (Windows embedded, Linux, etc.)

5 Standard operating system – Remote HMI (Windows embedded)

b = Display type

0 10 inch VGA display

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1 10 inch SVGA display

3 15 inch display

5 19 inch display

cc = Ethernet Communications

FX Fiber-optic Ethernet

TX Copper Ethernet

ddd = Options

HDn Hard disk of size “n”

SR Sunlight readable display

May be followed by additional alphanumeric characters, not relevant to certification.

Intrinsically Safe Entity Parameters:

NOTES:

1) Co/Lo pairs shown directly above/underneath each other in the following specifications may be used.

2) When used in Class II areas, maximum values for L and C are as specified for Group IIB applications.

USB-0 (X4) and USB2 (X6)

Uo = 5.9V

Io = 2.18A

Po = 1.24W

Maximum values, rectangular source for Zone 1 Group IIC:

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Li = 0 mH Lo = 0.01, 0.005, 0.002, 0.001 mH

Ci = 0 uF Co = 5.1, 11, 28, 43 uF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.05, 0.02, 0.01, 0.005 mH

Ci = 0 uF Co = 14, 40, 79, 200 uF

ET-Reader-2-RSi1, and –Rsi2 (X8)

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

Uo = 10.4V

Io = 220 mA

Po = 2.29W

Maximum values, rectangular source for Zone 1 Group IIC and Group IIB:

Li = 0 mH Lo = 0.01 mH

Ci = 1.72 uF Co = 0.8 uF

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

Ui = 12.4 V

Ii = 220 mA

Pi = 2.29 W

Li = 0 mH

Ci = 25 nF

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

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Project: 2512677 **Date Issued:** July 25, 2012

Uo = 5.36 V

Io = 220 mA

Po = 1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 5.3 uF Co = 40.7, 59.7 uF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02, 0.01 mH

Ci = 5.3 uF Co =70.7, 124.7 uF

Reader-2-RSi1 and –RSi2 signal input/output, terminals X8.5 through X8.8

Ui = 15 V Uo = 5.36 V

Ii = 500 mA Io = 46 mA

Pi = 2.5 W Po = 62 mW

Maximum values, linear source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002 mH

Ci = 0 uF Co = 46 uF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02 mH

Ci = 0 uF Co = 79 uF

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

Reader-2-WCR1 module supply (from external I.S. power supply), terminals X8.1 and X8.2

Ui = 11.4 V

Ii = 200 mA

Pi = 2.28 W

Li = 0 mH

Ci = 25 nF

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

Uo = 5.88 V

Io = 200 mA

Po = 1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 5.3 uF Co = 27.7, 37.7 uF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02, 0.01 mH

Ci = 5.3 uF Co = 55.7, 94.7 uF

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

Ui = 15 V Uo = 5.88 V

Ii = 500 mA Io = 51 mA

Pi = 2.5 W Po = 75 mW

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Maximum values, linear source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002 mH

Ci = 0 uF Co = 34 uF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02 mH

Ci = 0 uF Co = 63 uF

Keyboard and pointing device, protection level "ib" (X9)

Uo = 5.88 V

Io = 200 mA

Po = 1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 2, 1 uH

Ci = 17.6 uF Co = 15.4, 25.4 uF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 100, 50, 20, 10 uH

Ci = 17.6 uF Co = 10.4, 20.4, 43.4, 82.4 uF

Keyboard and pointing device, protection level "ia" (X9)

Uo = 5.88 V

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Io = 4.36 A

Po = 1.18 W

Maximum values, linear source for Zone 1 Group IIC:

Li = 0 mH Lo = 2, 1 uH

Ci = 17.6 uF Co = 13.4, 25.4 uF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH Lo = 20, 10, 5, 1 uH

Ci = 17.6 uF Co = 32.4, 74.4, 202.4, 982 uF

External non-intrinsically safe circuits:

Input power (X1)

Rated voltage = 24 Vdc (+20% / -15%)

Maximum Voltage, Um = 30 Vac

Rated current = 1.5 A

RS-422/-232 COM 1 (X2)

Rated voltage = RS232: ± 12 Vdc, RS422: 5 Vdc

Maximum Voltage, Um = 253 Vac

Audio out (X3)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 253 Vac

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USB-1 (X5)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 253 Vac

USB-3 (X7)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 253 Vac

LAN (X11)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 30 Vac

NOTES (Special Conditions of Safe Use):

1) Models with Sunlight Readable display option (SR option code) must be cleaned only with a damp cloth.

Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc, Type 4X, IP66.

Class II, Division 2, Groups E, F, G, T80°C; Ex ia tc [ib ic] IIIC T80°C Dc, IP66.

Exicom Operator Interface – Models MT-ab6-A-cc-ddd. Rated 24V dc, 1.5A.

Ambient temperature rated -30°C to 55°C at front of unit, and -20°C to 55°C at rear of unit.

Where:

a = Operating System

3 Stahl Eagle operating system

4 Standard operating system – Open HMI (Windows embedded, Linux, etc.)

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5 Standard operating system – Remote HMI (Windows embedded)

b = Display type

0 10 inch VGA display

1 10 inch SVGA display

3 15 inch display

5 19 inch display

cc = Ethernet Communications

FX Fiber-optic Ethernet

TX Copper Ethernet

ddd = Options

HDn Hard disk of size "n"

SR Sunlight readable display

May be followed by additional alphanumeric characters, not relevant to certification.

Intrinsically Safe Entity Parameters:

NOTES:

1) Co/Lo pairs shown directly above/underneath each other in the following specifications may be used.

2) When used in Class II areas, maximum values for L and C are as specified for Group IIB applications.

USB-0 (X4) and USB2 (X6)

Uo = 5.9V

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Io = 2.18A

Po = 1.24W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.01, 0.005, 0.002, 0.001 mH

Ci = 0 uF Co = 5.1, 11, 28, 43 uF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.05, 0.02, 0.01, 0.005 mH

Ci = 0 uF Co = 14, 40, 79, 200 uF

Maximum values, rectangular source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.01, 0.005, 0.002, 0.001 mH

Ci = 0 uF Co = 12, 24, 74, 670 uF

Maximum values, rectangular source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.05, 0.02, 0.01, 0.005 mH

Ci = 0 uF Co = 37, 92, 200, 790 uF

ET-Reader-2-RSi1, and –Rsi2 (X8)

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

Uo = 10.4V

Io = 220 mA

Po = 2.29W

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Maximum values, rectangular source for Zone 1 Group IIC and Group IIB:

Li = 0 mH Lo = 0.01 mH

Ci = 1.72 uF Co = 0.8 uF

Maximum values, rectangular source, for Zone 2, Group IIC and Group IIB:

Li = 0 mH Lo = 0.01 mH

Ci = 1.72 uF Co = 4.68 uF

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

Ui = 12.4 V

Ii = 220 mA

Pi = 2.29 W

Li = 0 mH

Ci = 25 nF

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

Uo = 5.36 V

Io = 220 mA

Po = 1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 5.3 uF Co = 40.7, 59.7 uF

Maximum values, rectangular source for Zone 1 Group IIB:

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Li = 0 mH Lo = 0.02, 0.01 mH

Ci = 5.3 uF Co =70.7, 124.7 uF

Maximum values, rectangular source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 5.3 uF Co = 124.7, 994.7 uF

Maximum values, rectangular source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.02, 0.01 mH

Ci = 5.3 uF Co =154.7, 324.7 uF

Reader-2-RSi1 and –RSi2 signal input/output, terminals X8.5 through X8.8

Ui = 15 V Uo = 5.36 V

Ii = 500 mA Io = 46 mA

Pi = 2.5 W Po = 62 mW

Maximum values, linear source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002 mH

Ci = 0 uF Co = 46 uF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02 mH

Ci = 0 uF Co = 79 uF

Maximum values, linear source for Zone 2 Group IIC:

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Certificate:	2512677	**Master Contract:**	213004
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Li = 0 mH Lo = 0.002 mH

Ci = 0 uF Co = 130 uF

Maximum values, linear source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.02 mH

Ci = 0 uF Co = 160 uF

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

Reader-2-WCR1 module supply (from external I.S. power supply), terminals X8.1 and X8.2

Ui = 11.4 V

Ii = 200 mA

Pi = 2.28 W

Li = 0 mH

Ci = 25 nF

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

Uo = 5.88 V

Io = 200 mA

Po = 1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 5.3 uF Co = 27.7, 37.7 uF

Maximum values, rectangular source for Zone 1 Group IIB:

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Li = 0 mH Lo = 0.02, 0.01 mH

Ci = 5.3 uF Co = 55.7, 94.7 uF

Maximum values, rectangular source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 5.3 uF Co = 80.7, 664.7 uF

Maximum values, rectangular source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.02, 0.01 mH

Ci = 5.3 uF Co = 114.7, 234.7 uF

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

Ui = 15 V Uo = 5.88 V

Ii = 500 mA Io = 51 mA

Pi = 2.5 W Po = 75 mW

Maximum values, linear source for Zone 1 Group IIC:

Li = 0 mH Lo = 0.002 mH

Ci = 0 uF Co = 34 uF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH Lo = 0.02 mH

Ci = 0 uF Co = 63 uF

Maximum values, linear source for Zone 2 Group IIC:

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Certificate:	2512677	**Master Contract:**	213004
Project:	2512677	**Date Issued:**	July 25, 2012

Li = 0 mH Lo = 0.002 mH

Ci = 0 uF Co = 87 uF

Maximum values, linear source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.02 mH

Ci = 0 uF Co = 130 uF

Keyboard and pointing device, protection level "ib" (X9)

Uo = 5.88 V

Io = 200 mA

Po = 1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0 mH Lo = 2, 1 uH

Ci = 17.6 uF Co = 15.4, 25.4 uF

Maximum values, rectangular source for Zone 1 Group IIB:

Li = 0 mH Lo = 100, 50, 20, 10 uH

Ci = 17.6 uF Co = 10.4, 20.4, 43.4, 82.4 uF

Keyboard and pointing device, protection level "ia" (X9)

Uo = 5.88 V

Io = 4.36 A

Po = 1.18 W

DQD 507 Rev. 2012-05-22 Page: 15

Certificate: 2512677 **Master Contract:** 213004

Project: 2512677 **Date Issued:** July 25, 2012

Maximum values, linear source for Zone 1 Group IIC:

Li = 0 mH Lo = 2, 1 uH

Ci = 17.6 uF Co = 13.4, 25.4 uF

Maximum values, linear source for Zone 1 Group IIB:

Li = 0 mH Lo = 20, 10, 5, 1 uH

Ci = 17.6 uF Co = 32.4, 74.4, 202.4, 982 uF

Maximum values, linear source for Zone 2 Group IIC:

Li = 0 mH Lo = 0.002, 0.001 mH

Ci = 17.6 uF Co = 68.4, 652.4 uF

Maximum values, linear source for Zone 2 Group IIB:

Li = 0 mH Lo = 0.1, 0.05, 0.02, 0.01 mH

Ci = 17.6 uF Co = 33.4, 53.4, 102.4, 222.4 uF

External non-intrinsically safe circuits:

Input power (X1)

Rated voltage = 24 Vdc (+20% / -15%)

Maximum Voltage, Um = 30 Vac

Rated current = 1.5 A

RS-422/-232 COM 1 (X2)

Rated voltage = RS232: ± 12 Vdc, RS422: 5 Vdc

Maximum Voltage, Um = 253 Vac

DQD 507 Rev. 2012-05-22 Page: 16

Certificate:	2512677	**Master Contract:**	213004
Project:	2512677	**Date Issued:**	July 25, 2012

Audio out (X3)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 253 Vac

USB-1 (X5)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 253 Vac

USB-3 (X7)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 253 Vac

LAN (X11)

Rated voltage = 5 Vdc

Maximum Voltage, Um = 30 Vac

NOTES (Special Conditions of Safe Use):

1) Models with Sunlight Readable display option (SR option code) must be cleaned only with a damp cloth.

APPLICABLE REQUIREMENTS

CAN/CSA-C22.2 No. 0-10 *August 2011*	General requirements — Canadian Electrical Code, Part II
CAN/CSA-C22.2 No. 94.1-07 *First Edition*	Enclosures for Electrical Equipment, Non-Environmental Considerations
CSA C22.2 No. 94.2-07 *First Edition*	Enclosures for Electrical Equipment, Environmental Considerations

DQD 507 Rev. 2012-05-22 Page: 17

Certificate: 2512677 **Master Contract:** 213004

Project: 2512677 **Date Issued:** July 25, 2012

CAN/CSA-C22.2 No. 60529:05 *(July 2005)*	Degrees of protection provided by enclosures (IP Code)
CAN/CSA-C22.2 No. 61010-1-04 *(Reaffirmed 2009)*	Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use — Part 1: General Requirements
CAN/CSA-C22.2 No. 60079-0:11 *(December 2011)*	Explosive atmospheres – Part 0: Equipment – General requirements
CAN/CSA-C22.2 No. 60079-1:11 *(December 2011)*	Explosive atmospheres – Part 1: Equipment protection by flameproof enclosures "d"
CAN/CSA-C22.2 No. 60079-7:12 *(February 2012)*	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"
CAN/CSA-C22.2 No. 60079-11:11 *(December 2011)*	Explosive atmospheres – Part 11: Equipment protection by intrinsic safety "i"
CAN/CSA-C22.2 No. 60079-15:12 *(January 2012)*	Electrical apparatus for explosive gas atmospheres — Part 15: Construction, test and marking of type of protection "n" electrical apparatus
CAN/CSA-C22.2 No. 60079-18:12 *(February 2012)*	Explosive atmospheres – Part 18: Equipment protection by encapsulation "m"
CAN/CSA-C22.2 No. 60079-31:12 *(January 2012)*	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"

MARKINGS

The following markings are provided on a CSA Accepted (Class 7923.01) or UL Recognized to Canadian requirements (PGJI8) adhesive nameplate, used with the printer and ribbon specified in the Listing, and is suitable for indoor and outdoor use on stainless steel, at a maximum service temperature of 70°C or higher. Nameplate is affixed to the rear surface of the enclosure.

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Certificate:	2512677	**Master Contract:**	213004
Project:	2512677	**Date Issued:**	July 25, 2012

- Manufacturer's name: "R. Stahl HMI Systems GmbH", or CSA Master Contract Number "213004", adjacent to the CSA Mark in lieu of manufacturer's name.
- Model number: As specified in the PRODUCTS section, above.
- The words: "See operating instructions", or equivalent, in lieu of marked electrical ratings.
- Ambient temperature rating: As specified in the PRODUCTS section, above.
- Manufacturing date in MMYY format, or serial number, traceable to year and month of manufacture.
- Enclosure rating: As specified in the PRODUCTS section, above.
- Enclosure IP rating: As specified in the PRODUCTS section, above.
- The CSA Mark, as shown on the Certificate of Conformity.
- The Year and CSA Certificate Number "12.2512677" adjacent to the CSA Mark.
- The designation "Exia" adjacent to the CSA mark.
- Method of Protection markings (Ex nomenclature):As specified in the PRODUCTS section, above.
- Temperature code: As specified in the PRODUCTS section, above.
- ISO 60417, Symbol 5019, or the word "Ground" or "GND" adjacent to the equipment ground (protective conductor) terminal.
- The words: "WARNING: Substitution of components may impair intrinsic safety."
- On models ET-xx6-A-xx-xxx: The words "Install per drawing 2012 09 52 0", or equivalent.
- On models MT-xx6-A-xx-xxx: The words "Install per drawing 2012 09 53 0", or equivalent.

Note - Jurisdictions in Canada may require these markings to also be provided in French language. It is the responsibility of the manufacturer to provide bilingual marking, where applicable, in accordance with the requirements of the Provincial Regulatory Authorities. It is the responsibility of the manufacturer to determine this requirement and have bilingual wording added to the "Markings".

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6 Indian certification

6.1 BIS certificate

6.1.1 ET-x16-A-*

भारतीय मानक ब्यूरो
(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)
BUREAU OF INDIAN STANDARDS
(Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India)

मानक भवन, 9 बहादुर शाह जफ़र मार्ग, नई दिल्ली - 110002
Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi – 110002
दूरभाष/Phone: +91-11-23230856/2323010131/23233375/23239402
ई-मेल/E-mail: registration@bis.gov.in
वेबसाईट/Website: https://bis.gov.in/, https://www.crsbis.in/BIS/

Our Ref: REGISTRATION/CRS 2022-2596/R-41228087 Date:13-03-2023

Inclusion Id: 66543

Subject :Inclusion of Additional Model(s)

MANUFACTURING UNIT :	R.Stahl Hmi Systems Gmbh ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE COLOGNE,Germany-50829 office@stahl-hmi.de 49221768061000	

Dear Sir,

1. This has reference to your request for inclusion of models of **"Automatic Data Processing Machine" as per IS 13252(Part 1):2010/ IEC 60950-1 : 2005 in Licence No. R-41228087** already granted to you which is valid upto 26-06-2024.

2. It is intimated that the additional Models as per details given below have been agreed to be included in your scope of Licence. **R-41228087 w.e.f. 13-03-2023:**

Product Category	Automatic Data Processing Machine
Product Name	ALL IN ONE PC (ADPM)
IS No.	IS 13252(Part 1):2010/ IEC 60950-1 : 2005
Brand (As Declared by Manufacturer):	STAHL
Inclusion of Additional Models **(w.e.f. 13-03-2023)**	ET-316-A-FX,ET-316-A-TX,ET-416-A-FX,ET-416-A-TX,ET-516-A-FX,ET-516-A-TX
Factory Address	ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE COLOGNE,Germany-50829

3. Other terms and conditions of the licence shall remain same.

4. This letter is being issued with the approval of competent authority.

Kindly acknowledge receipt of this letter.

Thanking you,

Yours faithfully,
(Sonali Gupta)
Scientist-B
Telfax : +91-11-23230856
E-mail: registration@bis.gov.in

Note: This is a system generated letter. Hence signature is not required.
To verify authentication of letter, kindly scan the QR code on this letter.

For details information on BIS, consult the e-BIS Portal (www.manakonline. in).
Please use BIS CARE APP for verification of ISI-marked goods and hallmarked gold jewellery.

6.1.2 ET-x36-A-*

भारतीय मानक ब्यूरो
(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)
BUREAU OF INDIAN STANDARDS
(Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India)

मानक भवन, 9 बहादुर शाह जफ़र मार्ग, नई दिल्ली - 110002
Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi – 110002
दूरभाष / Phone: +91-11-23230856/2323010131/23233375/23239402
ई-मेल / E-mail: registration@bis.gov.in
वेबसाईट / Website: https://bis.gov.in/, https://www.crsbis.in/BIS/

Our Ref: REGISTRATION/CRS 2022-2596/R-41228087 Date:02-11-2022

Inclusion Id: 62461

Subject :Inclusion of Additional Model(s)

MANUFACTURING UNIT :	R.Stahl Hmi Systems Gmbh ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE COLOGNE,Germany-50829 office@stahl-hmi.de 49221768061000	

Dear Sir,

1. This has reference to your request for inclusion of models of **"Automatic Data Processing Machine" as per IS 13252(Part 1):2010/ IEC 60950-1 : 2005 in Licence No. R-41228087** already granted to you which is valid upto 26-06-2024.

2. It is intimated that the additional Models as per details given below have been agreed to be included in your scope of Licence. **R-41228087 w.e.f. 02-11-2022:**

Product Category	Automatic Data Processing Machine
Product Name	ALL IN ONE PC (ADPM)
IS No.	IS 13252(Part 1):2010/ IEC 60950-1 : 2005
Brand (As Declared by Manufacturer):	STAHL
Inclusion of Additional Models **(w.e.f. 02-11-2022)**	ET-336-A-FX, ET-336-A-TX,ET-436-A-FX,ET-436-A-TX, ET-536-A-FX, ET-536-A-TX
Factory Address	ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE COLOGNE,Germany-50829

3. Other terms and conditions of the licence shall remain same.

4. This letter is being issued with the approval of competent authority.

Kindly acknowledge receipt of this letter.

Thanking you,

Yours faithfully,
(Sundeep Kumar)
Sc. D
Telfax : +91-11-23230856
E-mail: registration@bis.gov.in

Note: This is a system generated letter. Hence signature is not required.
To verify authentication of letter, kindly scan the QR code on this letter.

For details information on BIS, consult the e-BIS Portal (www.manakonline. in).
Please use BIS CARE APP for verification of ISI-marked goods and hallmarked gold jewellery.

6.2 BIS certificate renew 2024

भारतीय मानक ब्यूरो
(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)
BUREAU OF INDIAN STANDARDS
(Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India)

मानक भवन, 9 बहादुर शाह जफ़र मार्ग, नई दिल्ली – 110002
Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi – 110002
दूरभाष/Phone: +91-11-23230856/2323010131/23233375/23239402
ई-मेल/E-mail: registration@bis.gov.in
वेबसाईट/Website: https://bis.gov.in/, https://www.crsbis.in/BIS/

Our Ref: REGISTRATION /CRS-2022-2596/R-41228087

Dated: 2024-04-08 11:49:14

RENEWAL ID : 25245

Subject : RENEWAL OF LICENCE R-41228087 AS PER IS 13252(Part 1):2010/ IEC 60950-1 : 2005

R.Stahl Hmi Systems Gmbh
ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE
COLOGNE, Germany, 50829

Dear Sir/Madam,

With reference to your online application dated 08-04-2024 for renewal of the above mentioned licence; this is to inform you that the same has been renewed from **27-06-2024** to **26-06-2026**.

It may be noted that the said licence granted under clause (b) of sub section (2) of section 13 of the Act shall *expire* at the end of the period for which it is granted unless renewed or its renewal is deferred. You are, therefore, requested to apply for next renewal to BIS within three months before the expiration of the licence.

Thanking you.

Yours faithfully,

Registration Department
Bureau of Indian Standards,
9, Bahadur Shah Zafar Marg,
New Delhi-110002.
Telfax : +91-11-23230856
E-mail: registration@bis.gov.in

Note: This is a system generated letter. Hence signature is not required.
To verify authentication of letter, kindly scan the QR code on this letter.

For details information on BIS, consult the e-BIS Portal (www.manakonline. in).
Please use BIS CARE APP for verification of ISI-marked goods and hallmarked gold jewellery.

6.3 PESO certificate

Government of India
Ministry of Commerce & Industry
Petroleum & Explosives Safety Organisation (PESO)
5th Floor, A-Block, CGO Complex, Seminary Hills,
Nagpur - 440006

E-mail : **explosives@explosives.gov.in**
Phone/Fax No : **0712 -2510248, Fax-2510577**

Approval No : A/P/HQ/TN/104/6108 (P528111) Dated : **24/02/2022**

To,

M/s. R. STAHL HMI Systems GmbH,
Adolf-Grimme Allee 8,Cologne
50829
GERMANY

Sub : Approval of Operator Interface . under Petroleum Rules 2002- Regarding.

Sir(s),

Please refer to your letter No. **OIN990687** dated **01/02/2022** on the subject.

The following Ex electrical equipment(s) manufactured by you according to **IEC 60079-0 : 2017, IEC 60079-1 : 2014-06, IEC 60079-11 : 2011, IEC 60079-18: 2017, IEC 60079-28 : 2015, IEC 60079-7 : 2017,** standards and covered under **TUV Rheinland Industrie Service GmbH** Test reports mentioned below is/are approved for use in **Zone 1** of Gas **IIC** hazardous areas coming under the the Petroleum Rules, 2002 administered by this Organization.

Sr. No	Description	Safety Protection	Equipment reference Number	Test Agency			Drawing no
				Name	Certificate No.	Certificate Date	
1	Operator Interface ET-**6-A-*-***, Type -TX	Ex db eb ia ib mb [ia ib] IIC T4 Gb	**P528111/1**	TUV Rheinland Industrie Service GmbH	IECEx TUR 11.0006X, Issue No 3	18/08/2021	201238510
2	Operator Interface ET-**6-A-*-***, Type -FX	Ex db eb ia ib mb [ia ib op is] IIC T4 Gb	**P528111/2**	TUV Rheinland Industrie Service GmbH	IECEx TUR 11.0006X, Issue No 3	18/08/2021	201238510

This Approval is granted subject to observance of the following conditions:-

1)The design and construction of the equipment shall be strictly in accordance with description, condition and drawings as mentioned in the TUV Rheinland Industrie Service GmbH Test Reports referred to above.

2)The equipment shall be used only with approved type of accessories and associated apparatus.

3)Each equipment shall be marked either by raised lettering cast integrally or by plate attached permanently to the main structure to indicate conspicuously:-
(a) Name of the manufacturer
(b) Name and number by which the equipment is identified.
(c) Number & date of the test report of the TUV Rheinland Industrie Service GmbH applicable to the equipment.
(d) Equipment reference number of this letter by which use of apparatus is approved.
(e) Protection level.

4) A certificate to the effect that the equipment has been manufactured strictly in accordance with the drawing referred to in the TUV Rheinland Industrie Service GmbH Test report and is identical with the one tested and certified at TUV Rheinland Industrie Service GmbH shall be furnished with each equipment.
5) The customer shall be supplied with a copy of this letter, an extract of the conditions and maintenence schedule, if any, recommended by TUV Rheinland Industrie Service GmbH in their test reports and copy of instructions booklet detailing operation & maintenance of the equipment so as to maintain its Flame Proof characterestics.
6) The After sales service and maintanance of subject equipment shall be looked after by your representative R.Stahl (P) Ltd, Plot No.5, Malrosapuram Main Road

Conditions of the Approval:-
The approval for above equipment is subject to validity of IECEx Quality Assessment Report No. DE/BVS/QAR06.0007

This approval also covers the permissible variations as approved under the TUV Rheinland Industrie Service GmbH test reports referred above. This approval is liable to be cancelled if any of the conditions of the approval is violated or not complied with . The approval may also be amended or withdrawn at any time, if considered necessary in the interest of safety.

The field performance report from actual users/your customers of the subject equipment may please be collected and furnished to this office for verification and record on annual basis.
The Approval is Valid upto **31/12/2026**

Yours faithfully,

(A.B. Tamgadge)
Controller of Explosives
For Chief Controller of Explosives
Nagpur

Copy to :
1. Jt. Chief Controller of Explosives, South Circle Office, CHENNAI
2. R.Stahl (P) Ltd,Plot No.5, Malrosapuram Main Road

for Chief Controller of Explosives
Nagpur

(For more information regarding status,fees and other details please visit our website http://peso.gov.in)

This is System Generated document. Signature is not required.

Digitally signed by A B TAMGADGE
Reason: Approval No. : A/P/HQ/TN/104/6108
Location:Nagpur [P528111]
Date:2022.02.24 04:49:45 +05:30

7 INMETRO certificate

Certificado de Conformidade

Certificate of Conformity

Certificado/*Certificate*
UL-BR 12.0265X / 00

Revisão / Review
06

Emissão / *Issue*
5 de junho de 2012
June 5, 2012

Validade / *Expiration*
4 de junho de 2027
June 4, 2027

Reconhecer que o Solicitante / *Acknowledge that the Certificate Holder*

R. STAHL DO BRASIL COM. E IMP. DE EQUIP. ELET. ELETRÔNICOS LTDA

avaliou o produto / *has had*

Interface com o operador
Operator Interface

o qual atende aos requisitos do Programa de Certificação ou Portaria / *evaluated and meets the requirements of the Certification Program or Decree*

Portaria INMETRO no. 115:2022
INMETRO Ordinance no. 115:2022

e pode ostentar o Selo de Identificação da Conformidade do Sistema Brasileiro de Avaliação da Conformidade (SBAC) sobre o(s) produto(s) relacionado(s) neste certificado.
and can display the Conformity Identification Seal of the Brazilian Conformity Assessment System (SBAC) on the product(s) listed in this certificate.

Rafael Parada
Program Owner

UL do Brasil Certificações, organismo acreditado pela Coordenação Geral de Acreditação do INMETRO – CGCRE, segundo o registro Nº OCP-0029.
/ UL do Brasil Certificações, Certification Body accredited by Coordenação Geral de Acreditação do INMETRO - CGCRE according to the register Nr OCP-0029.

Solutions

Página / *Page:* 1 / 8

Certificado de conformidade válido somente acompanhado das páginas de 1 a 8
Certificate of Conformity valid only if accompanied from pages 1 to 8

Form-ULID-017660 – Rev. 2.0

Certificado de Conformidade

Certificate of Conformity

Certificado / *Certificate:* **UL-BR 12.0265X / 00**

Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

Solicitante / *Certificate Holder*
Party site number: 641528
R. STAHL DO BRASIL COM. E IMP. DE EQUIP. ELET. ELETRÔNICOS LTDA
Al. Terracota, 185, conj. 1302 – Ceramica – São Caetano do Sul
São Paulo – 09531-190 – Brasil
CNPJ: 10.510.369/0001-06

Fabricante / *Manufacturer*
Party site number: 1100004
R. STAHL HMI SYSTEMS GMBH
Adolf-Grimme-Allee 8 - Köln 50829 - Germany CNPJ: Não Aplicável / *Not Applicable*

Modelo de Certificação / *Certification Model*
5

Norma(s) Aplicável(is) / *Applicable standards*
ABNT NBR IEC 60079-0:2020
ABNT NBR IEC 60079-1: 2016 Versão Corrigida: 2020
ABNT NBR IEC 60079-7: 2018 Versão Corrigida:2022

ABNT NBR IEC 60079-11: 2013 Versão Corrigida:2017

ABNT NBR IEC 60079-18:2020
ABNT NBR IEC 60079-28: 2016 Versão Corrigida:2021

ABNT NBR IEC 60079-31: 2014 Versão Corrigida:2021

Identificação UL / *UL Identification*
BR2004/Vol.5/Sec.1

Identificação dos Modelos de Produto(s) Certificado(s):
Identification of the Model of Certified Product(s):

Marca / *Brand Name*	**Modelo /** *Model*	**Descrição /** *Description*	**Código de Barras /** *Bar Code Number*
R. Stahl	ET-**6-A-*-***	Interface com o operador *Operator Interface* Nota: Veja detalhes abaixo. *Note: See details below*	N/A

Os Exicom ET-**6-A-*-*** são dispositivos de interface com o operador ou painel para utilização em áreas que requerem EPL Gb, EPL Gc, EPL Db e EPL Dc.

O produto como um todo é construído em um invólucro protegido contra entrada de líquidos e poeira sem a necessidade de ser instalado em gabinetes certificados para atmosferas explosivas.

Os diferentes modelos variam no tamanho da tela (10", 15" e 19") e tamanho total, o painel frontal com ou sem teclado e todas as facilidades de funcionamento.

As três principais facilidades de funcionamento são (caracterizadas pelo primeiro código numérico):

ET-3*6-A-*-***: Sistema operacional Stahl para aplicações do usuário;
ET-4*6-A-*-***: Sistema operacional padrão (por exemplo, Windows Incorporado, Linux etc.);
ET-5*6-A-*-***: Sistema operacional padrão Windows incorporado para aplicações remotas;

A construção interna para todos os equipamentos é igual para a maioria dos modelos.

Todos os modelos possuem várias interfaces para conectar com dispositivos externos como teclado, controles, localizadores, RFID ou scanner para código de barras etc.

Certificado de Conformidade

Certificate of Conformity

Certificado / *Certificate:* **UL-BR 12.0265X / 00**

Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

Comunicação com redes PLC e sistemas de automação é realizado por interfaces diferentes (RS-232, RS-485, Ethernet por fibra ótica ou por fio de cobre) conectadas por dispositivo com tipo de proteção "Ex e" – localizado na parte traseira do equipamento.

Montagem de acessórios como memória USB e disco rígido estão previstos.

Para detalhes ver modelo abaixo. Com as variações –TX- e –FX-

*The Exicom ET-**6-A-*-*** devices are operator interfaces or panel PCs for installation in hazardous locations that require EPL Gb, EPL Gc, EPL Db e EPL Dc.*

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

The different models vary in display size (10", 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):

*ET-3*6-A-*-***: Stahl operating system for user application;*
*ET-4*6-A-*-***: Standard operation system (e.g. Windows Embedded, Linux etc.);*
ET-5-6-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 is achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the "Ex e" – area at the back of the devices.

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

For details see type below. With variant –TX- and –FX-

Nomenclatura / *Nomenclature*:

Interface com o operador / *Operator Interface*		**Type** **ET - * * 6 - A - * - * * * ***
Dispositivos com EPL Ga e Da / *Devices with EPL Ga and Da*		
Código de modelo / *Type Code*	3	*Eagle (Sistema operacional Stahl)* *Eagle (Stahl Operating System)*
	4	*HMI Aberto (Windows, Linux OS)* *Open HMI (Windows, Linux OS)*
	5	HMI Remoto (Sistema operacional windows remoto) *Remote HMI (Windows remote operating System)*
Código de tamanho / *Size Code*	*0*	*Display de 10" VGA* *10" VGA Display*
	1	*Display de 10" SVGA* *10" SVGA Display*
	3	*Display de 15"* *15" Display*
	5	*Display de 19"* *19" Display*
Código fixo em 6 / *Family code fixed to 6*		
Revisão 3 / *Revision 3*		
	FX	*Rede LAN de fibra ótica* *Fiber optic LAN*
	TX	*Rede LAN de fio de cobre* *Cooper wire LAN*
	HDn	*Equipado com disco rídigo (tamanho de armazenamento n) e/ou* *Equipped with hard disk drive (memory size n) and/or*
	SR	*Display legível sob luz solar e/ou* *Sunlight readable display and/or*
	Informações adicionais (não relevantes para aprovação Ex) *Additional information (not relevant for ex-approval)*	

Certificado de Conformidade

Certificate of Conformity

Certificado / *Certificate:* **UL-BR 12.0265X / 00**

Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

MARCAÇÃO Ex / *Ex MARKING:*

TX	Ex db eb ia ib mb [ia ib] IIC T4 Gb
	Ex ia tb [ia ib] IIIC T80 °C IP66 Db

FX	Ex db eb ia ib mb [ia ib op is] IIC T4 Gb
	Ex ia tb [ia ib op is] IIIC T80 °C IP66 Db

Faixa de temperatura ambiente/*Ambient temperature range*:

-30 °C ≤ T_a ≤ +55 °C (Na parte frontal da unidade / *at front of unit*)
-20 °C ≤ T_a ≤ +55 °C (Na parte traseira da unidade / *at rear of unit*)

CARACTERÍSTICAS ELÉTRICAS / *ELECTRICAL CHARACTERISTICS:*

Fonte de alimentação: 24 Vcc / 1,5 A
Power Supply: 24 Vdc / 1,5 A

CONDIÇÕES ESPECÍFICAS DE UTILIZAÇÃO PARA EQUIPAMENTOS Ex ou LISTA DE LIMITAÇÕES PARA COMPONENTES Ex:
SPECIFIC CONDITIONS OF USE FOR Ex EQUIPMENT or SCHEDULE OF LIMITATIONS FOR Ex COMPONENTS:

Para ET-**6-A-*-*SR* (Tela legível em exposição à luz solar)
As partes frontais das interfaces com o operador com tela legível em exposição à luz solar (o código do modelo inclui "SR") deve ser limpa apenas com pano úmido.

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

ENSAIOS DE ROTINA / *ROUTINE TESTS:*

Os seguintes ensaios de rotina devem ser conduzidos pelo fabricante e serão verificados durante as auditorias conduzidas pela UL:
The following routine tests shall be conducted by the manufacturer and will be verified during the audits conducted by UL:

- Ensaio de dielétrico de acordo com a ABNT NBR IEC 60079-7
- Inspeção Visual e Rigidez Dielétrica de acordo com a ABNT NBR IEC 60079-18

- Dielectric test according to ABNT NBR IEC 60079-7
- Visual inspections and Dielectric strength test according to ABNT NBR IEC 60079-18

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Certificate of Conformity

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Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

LISTA DE DOCUMENTOS / *DOCUMENTS LIST:*

☒Description ILL# ☐TestRef ILL#	**Título** / *Title:*	**Desenho Nº** *Drawing No.:*	**Revisão ou Data:** *Issue or Date* *(DD/MM/YYYY)*
01	Documentation of Certification	Certfoc_EAGLE-3-N2_20121005	2012-10-05
02	Block Diagram	2010 30 7002 2	2011-11-28
03	Housing	2005 41 53 2	2011-03-09
04	Bus Board	2009 19 04 1 S	2010-09-10
05	Power Supply	2004 11 01 2 B	2011-10-13
06	Base Board	2009 19 07 2 S	2011-02-24
07	Interface Board	2009 19 09 2 S	2011-10-26
08	Reader Interface	2011 05 01 0 P	2011-03-10
09	Display Front	2011 37 53 0	2011-09-15
10	Disco Rígido do Exicom – ATEX Certificate	TUV 08 ATEX 7504U*	2008-02-06
11	Surface Temperature – Test Datasheet	-	2011-04-06
12	Operating Instructions	ET-xx6-A	2011-05-16
13	Conv. Adapter	2010 23 01 0 S	2011-11-28
14	Disp. Adapter	2010 10 01 3 S	2011-10-28
15	ENET Adapter	2005 47 01 0 S	2006-10-23
16	Wiring Overview	2010 47 7000 1	2011-10-31
17	Tables_Calculations	2011 06 7000 0	2011-02-21
18	Etiqueta de marcação ET-xx6-A-x-xxx	ET-**6BRRS201201	2012-05-29
19	Instruções Operacionais	EAGLEBRRS	2015-08-27
20	Inmetro marking	20241470010	19-04-2024

Certificado de Conformidade

Certificate of Conformity

Certificado / *Certificate:* **UL-BR 12.0265X / 00**

Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

CERTIFICADO DE CONFORMIDADE, RELATÓRIOS DE ENSAIO / *CERTIFICATE OF CONFORMANCE, TEST REPORTS:*

☒TestRec DS# ☐TestRef DS#	**Título/Descrição:** *Title/Description:*	**Documento Nº** *Document No.:*	**Revisão ou Data:** *Issue or Date* *(DD/MM/YYYY)*
01	IECEx Certificate	IECEx TUR 11.0006X issue 3	2021-08-18
02	IECEx Test Report– Cover Page + ExTR 60079-0 (ed. 6) + ExTR 60079-7 (ed. 4) + ExTR 60079-11 (ed. 6) + ExTR 60079-18 (ed. 3)	DE/TUR/ExTR11.0006/02	2012-11-21
03	IECEx Test Report – Cover Page + ExTR 60079-0 (ed. 6) + ExTR 60079-1 (ed. 6) + ExTR 60079-7 (ed. 4) + ExTR 60079-11 (ed. 6) + ExTR 60079-18 (ed. 3) + ExTR 60079-28 (ed. 1) + ExTR 60079-31 (ed. 1)	DE/TUR/ExTR11.0006/01	2011-12-14
04	IECEx Test Report – Cover Page + ExTR 60079-0 (ed. 5) + ExTR 60079-1 (ed. 6) + ExTR 60079-7 (ed. 4) + ExTR 60079-11 (ed. 5) + ExTR 60079-18 (ed. 3) + ExTR 60079-28 (ed. 1) + ExTR 60079-31 (ed. 1); ExTR 61241011 (Ed.1)	DE/TUR/ExTR11.0006/00	2011-05-18
05	Test Report	21155936_001	2011-05-10
06	Test Report – Temp. rise, temp surface.	-	2011-11-03
07	Test and Assessment Report	557/Ex 041.01/11	2011-12-14
08	Test Report	21176079_001	2011-11-16
09	Test Report – Dielectric strength test of encapsulation	-	2012-09-25
10	INMETRO Package	UL/BR 12CA25158-1	2012-06-01
11	INMETRO Package	2854352.717927	2015-09-29
12	IECEx Test Report issue by TÜV Rheinland Industrie Service GmbH	DE/TUR/ExTR11.0006/03	2021-08-18

Informações de Auditoria / *Audit Information:*

Local da Auditoria / *Audit Location*	**Data de Realização /** *Perform Date* *(DD/MM/YYYY))*
Tratamento de Reclamações *Complaint Handling* *(UL Audit File: A28545)*	2023-04-04
Fabricante *Manufacturer* *(UL Audit File: A28489)*	22/04/2024

Certificado de Conformidade

Certificate of Conformity

Certificado / *Certificate:* **UL-BR 12.0265X / 00**

Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

Observações / *Observations:*

1. A validade deste Certificado de Conformidade está atrelada à realização das avaliações de manutenção e tratamento de possíveis não conformidades de acordo com as orientações da UL do Brasil Certificações previstas no RAC específico. Para verificação da condição atualizada de regularidade deste Certificado de Conformidade deve ser consultado o banco de dados de produtos e serviços certificados do Inmetro.
   The validity of this Certificate of Conformity is linked to the performance of maintenance assessments and treatment of possible non-conformities in accordance with the guidelines of UL do Brasil Certifications provided for in the specific Conformity Assessment Regulation. To check the updated condition of regularity of this Certificate of Conformity, the Inmetro database of certified products and services must be consulted.

2. Este certificado aplica-se aos equipamentos (produtos) idênticos ao protótipo avaliado e certificado, manufaturados na(s) unidade(s) fabril(is) mencionada (s) acima.
   This certificate applies to the products that are identical to the prototype investigated, certified and manufactured at the production site mentioned in this certificate.

3. Qualquer alteração no produto, incluindo a marcação, invalidará o presente certificado, salvo se o solicitante informar por escrito à UL do Brasil Certificações sobre esta modificação, a qual procederá à avaliação e decidirá quanto à continuidade da validade do certificado.
   Any non-authorized changes performed in the product, including marking, will invalidate this certificate. UL do Brasil Certificações must be notified about any desired change. This notification will be analyzed by UL do Brasil Certificações that will decide about certificate force.

4. Esta autorização está vinculada a um contrato e para o escopo acima citado.
   This license is related to a commercial proposal and to the scope above cited.

5. Somente as unidades comercializadas durante a vigência deste certificado estarão cobertas por esta certificação.
   Only the products placed into the market during the validity of this certificate will be covered by this certification.

6. Os equipamentos devem ser instalados em atendimento às Normas pertinentes em Instalações Elétricas em Atmosferas Explosivas, ABNT NBR IEC 60079-14.
   The equipment shall be installed according to the relevant Standards in Electrical Installation for Explosive Atmospheres, ABNT NBR IEC 60079-14.

7. As atividades de instalação, inspeção, manutenção, reparo, revisão e recuperação dos equipamentos são de responsabilidade dos usuários e devem ser executadas de acordo com os requisitos das normas técnicas vigentes e com as recomendações do fabricante.
   The installation, inspection, maintenance, repair, review and rebuild equipment activities are responsibility of the end user and must be performed in accordance with the requirements of the standards and manufacturer's recommendation.

Certificado de Conformidade

Certificate of Conformity

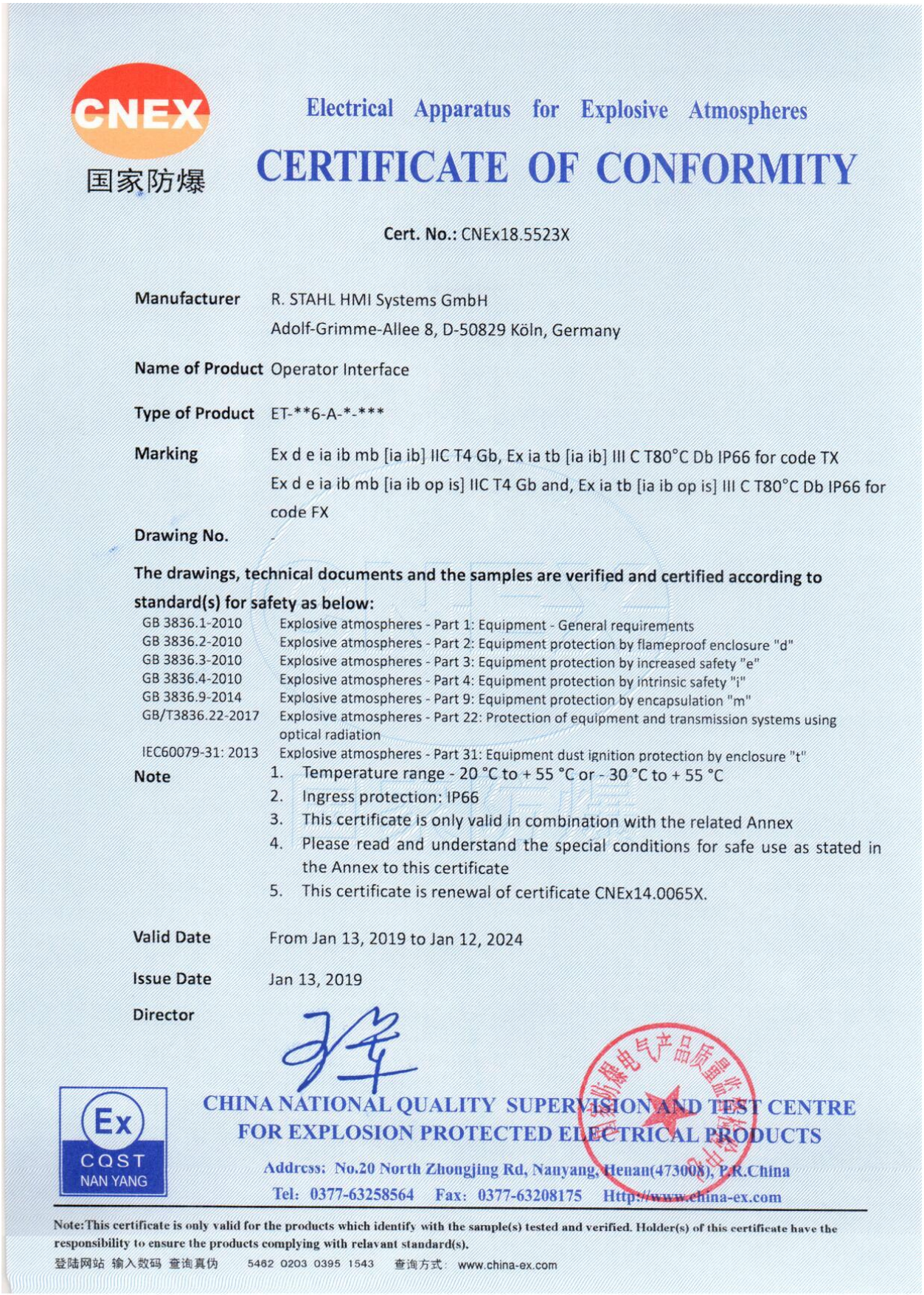
Certificado / *Certificate:* **UL-BR 12.0265X / 00**

Emissão / ***Issue***	**Revisão /** *Review*: **06**	**Validade /** ***Expiration***
5 de junho de 2012 *June 5, 2012*		4 de junho de 2027 *June 4, 2027*

Histórico de Revisões / *Revisions History:*

Revisão / *Review*	**Data /** *Date* *(DD/MM/YYYY)*	**Descrição da Revisão /** *Revision Description*
06	29/05/2024	**Project 4791203155.1.1** Adequação do certificado para a Portaria INMETRO 115:2022 e Adequação do certificado conforme última versão do certificado de origem IECEx TUR 11.0006X, emissão 3, cobrindo: a extensão da data de validade do certificado, Atualização do solicitante do certificado de R. STAHL Schaltgeräte GmbH para R. STAHL do Brasil Com. e Imp. de Equip. Elet. Eletrônicos Ltda, atualização de normas e atualização dos desenhos. Alteração do campo Vol. e Seção de Vol.1 / Sec. 36 para Vol.5 / Sec.1. *Adequacy of the certificate for INMETRO Ordinance 115:2022 and Adequacy of the certificate according to the latest version of the certificate of origin IECEx TUR 11.0006X, issue 3, covering: extension of certificate expiration date. Update of applicant of certificate from R. STAHL Schaltgeräte GmbH to R. STAHL do Brasil Com. e Imp. de Equip. Elet. Eletrônicos Ltda, update of standards and updating of drawings. Change of Vol. and Section field from Vol.1 / Sec. 36 to Vol.5 / Sec.1.*
05	07/06/2021	**Project 1293812.1238129.1.2** Renovação de Certificado e alteração do endereço do Solicitante *Certificate Renewal and Applicant´s address change.*
04	30/05/2018	**Project 4946826.1138372** Renovação de Certificado. *Certificate Renewal.*
03	07/10/2015	**Project 4946826.1138372** Alterações técnicas não afetando a segurança do produto e inclusão da nomenclatura do produto. *Technical changes not affecting the product safety and addition of product nomenclature.*
02	04/06/2015	**Project 2556782.650236:** Renovação de Certificado. *Certificate Renewal.*
01	16/09/2013	**Project 3332819.5123321:** Atualização do modelo de certificado com pequenas correções e clarificações no texto; Atualização do endereço do Solicitante. *Certificate template update with minor corrections and clarifications in the text; Update on Applicant's address.*
00	05/06/2012	**Project 12CA25158-1:** Emissão Inicial *Initial issue*
A última revisão substitui e cancela as anteriores / *The last review replaces and cancels the previous ones*		

8 CNEx certificate



CNEX
国家防爆

Electrical Apparatus for Explosive Atmospheres

CERTIFICATE OF CONFORMITY

Cert. No.: CNEx18.5523X

Manufacturer	R. STAHL HMI Systems GmbH Adolf-Grimme-Allee 8, D-50829 Köln, Germany
Name of Product	Operator Interface
Type of Product	ET-**6-A-*-***
Marking	Ex d e ia ib mb [ia ib] IIC T4 Gb, Ex ia tb [ia ib] III C T80°C Db IP66 for code TX Ex d e ia ib mb [ia ib op is] IIC T4 Gb and, Ex ia tb [ia ib op is] III C T80°C Db IP66 for code FX
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 3836.9-2014	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
IEC60079-31: 2013	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

Note

1. Temperature range - 20 °C to + 55 °C or - 30 °C to + 55 °C
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 CNEx14.0065X.

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

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China

Tel: 0377-63258564 Fax: 0377-63208175 Http://www.china-ex.com

Note:This certificate is only valid for the products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relavant standard(s).

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Electrical Apparatus for Explosive Atmospheres

CERTIFICATE OF CONFORMITY

Annex to Cert. No.: CNEx18.5523X

This Annex to certificate CNEx 18.5523X covers the following model: Type ET-**6-A-*-***.
This product has been certified, under certificate number IECEx TUR 11.0006X, issue 2, dated 2012-11-28.

Product Description:
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 is achieved by different interfaces (RS-232, RS-485, Ethernet fiber optic or copper wire Ethernet links) connected in the "Ex-e"-area 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 [ia ib] IIC T4 Gb
	Ex ia tb [ia ib] IIIC T80°C IP66
Type code -FX-	Ex d e ia ib mb [ia ib op is] IIC T4 Gb
	Ex ia tb [ia ib op is] IIIC T80°C IP66

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:
External, non-intrinsically safe circuit

Input voltage(X1):
rated voltage: 24VDC(+20%/-15%), max. voltage Um: 30VAC, Rated current: 1.5A

Issue Date Jan 13, 2019

Director

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Electrical Apparatus for Explosive Atmospheres

CERTIFICATE OF CONFORMITY

Annex to Cert. No.: CNEx18.5523X

RS-422/-232 COM1(X2):
Rated voltage: RS232: ±12VDC, RS422: 5VDC, max. voltage Um: 253VAC

Audio output(X3):
Rated voltage: 5VDC, max. voltage Um: 253VAC

USB-1(X5):
Rated voltage: 5VDC, max. voltage Um: 253VAC

USB-3(X7):
Rated voltage: 5VDC, max. voltage Um: 253VAC

LAN(X11):
Rated voltage: 5VDC, max. voltage Um: 30VAC

RS-422/-232 COM 2-3(X22)
Rated voltage: RS232: ±12VDC, RS422: 5VDC, max. voltage Um: 253VAC

External Intrinsically safe circuit
Superposed L and C values are allowed combinations, the results see the table bellow.
Co and Lo pairs directly above/underneath each other may be used.
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.

Issue Date Jan 13, 2019

Director

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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.

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

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

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.)

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

Ui = 12.4 V Ii = 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 Io = 220 mA Po = 1.18 W

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

Issue Date Jan 13, 2019

Director

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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		

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

Ui	=	15	V	Ii	=	500	mA	Pi	=	2.5 W
Uo	=	5.36	V	Io	=	46	mA	Po	=	62 mW

Maximum values, linear source for Zone 1 Group IIC:

Li	=	0	mH	Lo	=	0.002	mH
Ci	=	0	µF	Co	=	46	µF

Maximum values, linear source for Zone 1 Group IIB:

Li	=	0	mH	Lo	=	0.02	mH
Ci	=	0	µF	Co	=	79	µF

ET-Reader-2WCR1 and WCR2(X8)

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

Ui	=	11.4	V	Ii	=	200	mA	Pi	=	2.28 W
Li	=	0	mH	Ci	=	25	nF			

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

Uo	=	5.88	V	Io	=	200	mA	Po	=	1.18 W

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

Issue Date Jan 13, 2019

Director

Ex CQST NAN YANG

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CNEX
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Electrical Apparatus for Explosive Atmospheres

CERTIFICATE OF CONFORMITY

Annex to Cert. No.: CNEx18.5523X

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

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

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

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

Uo	=	5.88	V	Io	=	200	mA	Po	=	1.18 W

Maximum values, rectangular source for Zone 1 Group IIC:

Li	=	0	mH	Lo	=	2	1	µH	
Ci	=	17.6	µF	Co	=	15.4	25.4	µF	

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

Maximum values, rectangular 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, rectangular 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

Issue Date Jan 13, 2019

Director

Ex CQST NAN YANG

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

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China
Tel: 0377-63258564 Fax: 0377-63208175 Http://www.china-ex.com

Note:This certificate is only valid for the products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relavant standard(s).

9 Korean certification

9.1 KCC certificate

9.1.1 ET-316-A, MT-316-A

3C39-A536-7780-DF18

방송통신기자재등의 적합등록 필증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 *Trade Name or Registrant*	R. STAHL HMI Systems GmbH
기기 명칭 *Equipment Name*	Operator HMI Panel
기본모델명 *Basic Model Number*	ET-316-A
파생모델명 *Series Model Number*	MT-316-A
등록번호 *Registration No.*	KCC-REM-RS3-ET-316-A
제조자/제조(조립)국가 *Manufacturer/Country of Origin*	R. STAHL HMI Systems GmbH / 독일
등록연월일 *Date of Registration*	2013-02-15
기타 *Others*	

위 기기는「전파법」제58조의2 제3항에 따라 등록되었음을 증명합니다.

It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2013년(Year) 02월(Month) 15일(Date)

국립전파연구원장 국립전파연구원장인

Director General of Radio Research Agency
Korea Communications Commission Republic of Korea

※ 적합등록 방송통신기자재는 반드시 "적합성평가표시"를 부착하여 유통하여야 합니다.
위반시 과태료 처분 및 등록이 취소될 수 있습니다.

9.1.2 ET-416-A, MT-416-A

1618-DA06-8D9E-E8D8

방송통신기자재등의 적합등록 필증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 *Trade Name or Registrant*	R. STAHL HMI Systems GmbH
기기 명칭 *Equipment Name*	Operator HMI Panel
기본모델명 *Basic Model Number*	ET-416-A
파생모델명 *Series Model Number*	MT-416-A
등록번호 *Registration No.*	KCC-REM-RS3-ET-416-A
제조자/제조(조립)국가 *Manufacturer/Country of Origin*	R. STAHL HMI Systems GmbH / 독일
등록연월일 *Date of Registration*	2012-11-21
기타 *Others*	

위 기기는「전파법」제58조의2 제3항에 따라 등록되었음을 증명합니다.

It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2012년(Year) 11월(Month) 21일(Date)

국립전파연구원장 국립전파연구원장인

Director General of Radio Research Agency
Korea Communications Commission Republic of Korea

※ 적합등록 방송통신기자재는 반드시 "적합성평가표시"를 부착하여 유통하여야 합니다.
위반시 과태료 처분 및 등록이 취소될 수 있습니다.

9.1.3 ET-436-A, MT-436-A

A55E-1226-81F9-C968

방송통신기자재등의 적합등록 필증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 *Trade Name or Registrant*	R. STAHL HMI Systems GmbH
기기 명칭 *Equipment Name*	Operator HMI Panel
기본모델명 *Basic Model Number*	ET-436-A
파생모델명 *Series Model Number*	MT-436-A
등록번호 *Registration No.*	KCC-REM-RS3-ET-436-A
제조자/제조(조립)국가 *Manufacturer/Country of Origin*	R. STAHL HMI Systems GmbH / 독일
등록연월일 *Date of Registration*	2013-06-28
기타 *Others*	

위 기기는「전파법」제58조의2 제3항에 따라 등록되었음을 증명합니다.

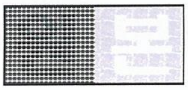
It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

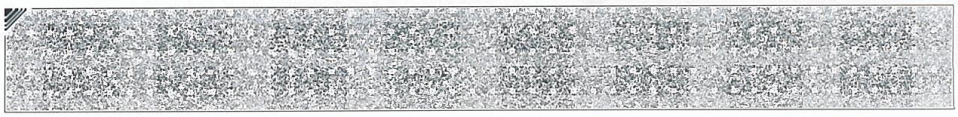
2013년(Year) 06월(Month) 28일(Date)

국립전파연구원장 국립전파연구원장인

Director General of Radio Research Agency
Korea Communications Commission Republic of Korea

※ 적합등록 방송통신기자재는 반드시 "적합성평가표시"를 부착하여 유통하여야 합니다.
위반시 과태료 처분 및 등록이 취소될 수 있습니다.





9.1.4 ET-456-A-TX

0B9D-7900-6ADE-26B1

방송통신기자재등의 적합등록 필증

Registration of Broadcasting and Communication Equipments

상호 또는 성명 *Trade Name or Registrant*	R. STAHL HMI Systems GmbH
기기 명칭 *Equipment Name*	Operator HMI Panel
기본모델명 *Basic Model Number*	ET-456-A-Tx
파생모델명 *Series Model Number*	
등록번호 *Registration No.*	KCC-REM-RS3-ET-456-A-Tx
제조자/제조(조립)국가 *Manufacturer/Country of Origin*	R. STAHL HMI Systems GmbH / 독일
등록연월일 *Date of Registration*	2012-11-06
기타 *Others*	

위 기기는「전파법」제58조의2 제3항에 따라 등록되었음을 증명합니다.

It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.

2012년(Year) 11월(Month) 06일(Date)

국립전파연구원장 국립전파연구원장인

Director General of Radio Research Agency
Korea Communications Commission Republic of Korea

※ 적합등록 방송통신기자재는 반드시 "적합성평가표시"를 부착하여 유통하여야 합니다.
위반시 과태료 처분 및 등록이 취소될 수 있습니다.

9.2 KCS certificate

NB:
In order to be able to operate these terminals in Korea, each device type additionally requires a KCC certificate.
Actually the following devices has such a certificate:
ET-316-A, ET-416-A, ET-436-A, ET-456-A-TX, MT-316-A, MT-416-A, MT-436-A

9.2.1 Area gas

제12-0215호

안 전 인 증 서

R. STAHL HMI Systems GmbH

Im Gewerbegebiet Pesch 14, 50767 Cologne Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Operator Interface

형식 · 모델 / 용량 · 등급 / 인증번호

형식·모델	용량 · 등급	인증번호
ET-**6-A-*-***	Power supply: 24VDC, 1.5A 첨부 인증조건(12-0215) 참조	12-GA4BO-0215X
	Ex d e ia ib mb [ia ib] IIC T4	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2010-36호)

인 증 조 건

T4(Tamb : -20℃ ~ +55℃)
Front: -30℃ ~ +55℃

2012 년 4 월 24 일

한국가스안전공사 사장

인 증 조 건

1. 제조공장:
   Im Gewerbegebiet Pesch 14, 50767 Cologne Germany에 위치한
   R. STAHL HMI Systems GmbH 공장에서 생산한 제품 중 아래 인증범위의 제품에 한함.

2. 제품개요

   The Exicom ET-**6-A-*-***devices are operator interfaces or panel PCs for installation in hazardous locations classified for zones1,2. The entire devices are built in housings that are protected against liquids and dust without need to be installed in hazardous locations certified cabinets.

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함
   품목 명 Operator Interface, 모델 명 ET-**6-A-*-***에 한하여 인증함.
   첨부 인증조건(12-0215) 참조.

4. 안전한 사용을 위한 조건

   For ET-**6-A-*-*SR*: The front of the operator interface equipped with a sunlight readable display(type code includes "SR") may be cleaned with a damp cloth only.

5. 인증(변경)사항

6. 그 밖의 사항

   안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수

[첨 부]

인 증 조 건(12-0215)

1. External, non-intrinsically safe circuits

1.1 Input voltage(X1)
- Rated voltage: 24VDC(+20% / -15%)
- max. voltage Um: 30VAC
- Rated current: 1.5A

1.2 RS-422/-232 COM1(X2)
- Rated voltage: RS232: ∓12VDC; RS422: 5VDC
- max. voltage Um: 253VAC

1.3 Audio out(X3)
- Rated voltage: 5VDC
- max. voltage Um: 253VAC

1.4 USB-1(X5)
- Rated voltage: 5VDC
- max. voltage Um: 253VAC

1.5 USB-3(X7)
- Rated voltage: 5VDC
- max. voltage Um: 253VAC

1.6 LAN(X11)
- Rated voltage: 5VDC
- max. voltage Um: 30VAC

2. External intrinsically safe circuits

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

Uo = 5.9V
Io = 2.18A
Po = 1.24W

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

Li = 0mH	Lo = 0.01	0.005	0.002	0.001	mH
Ci = 0uF	Co = 5.1	11	28	43	uF

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

Li = 0mH	Lo = 0.05	0.002	0.01	0.005	mH
Ci = 0uF	Co = 14	40	79	200	uF

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

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

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

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

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

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

인 증 조 건(12-0215)

2.2.2 Reader-2-RSi1 module supply input, terminal X8.2(bridged to X8.0)
Ui = 12.4V
Ii = 220mA
Pi = 2.29W
Li = 0mH
Ci = 25nF
2.2.3 Reader-2-RSi1 power supply for reader, terminals X8.3-4
Uo = 5.36V
Io = 220mA
Po = 1.18W
Maximum values, rectangular source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002 0.001 mH
Ci = 5.3uF Co = 40.7 59.7 uF
Maximum values, rectangular source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02 0.01 mH
Ci = 5.3uF Co = 70.7 124.7 uF
2.2.4 Reader-2-Rsi1 and -Rsi2 signal input/output, terminals X8.5-8
Ui = 15V Uo = 5.36V
Ii = 500mA Io = 46mA
Pi = 2.5W Po = 62mW
Maximum values, linear source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002mH
Ci = 0uF Co = 46uF
Maximum values, linear source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02mH
Ci = 0uF Co = 79uF
2.3 ET-Reader-2-WCR1 and WCR2(X8)
2.3.1 Reader-2-WCR1 module supply(from external is-power supply) terminal X8.1-2
Ui = 11.4V
Ii = 200mA
Pi = 2.28W
Li = 0mH
Ci = 25nF
2.3.2 Reader-2-WCR1 power supply for reader, terminals X8.3-4
Uo = 5.88V
Io = 200mA
Po = 1.18W
Maximum values, rectangular source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002 0.001 mH
Ci = 5.3uF Co = 27.7 37.7 uF
Maximum values, rectangular source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02 0.01 mH
Ci = 5.3uF Co = 55.7 94.7 uF
2.3.3 Reader-2-WCR1 and -WCR2 signal input/output, X8.5-8
Ui = 15V Uo = 5.88V
Ii = 500mA Io = 51mA
Pi = 2.5W Po = 75mW
Maximum values, linear source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002mH
Ci = 0uF Co = 34uF
Maximum values, linear source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02mH
Ci = 0uF Co = 63uF

(2/3)

인 증 조 건(12-0215)

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

Uo = 5.88V
Io = 200mA
Po = 1.18W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0mH	Lo =	2	1	uH	
Ci = 17.6uF	Co =	15.4	25.4	uF	

Maximum values, rectangular source for Zone 1 Group IIB:

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

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

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

Maximum values, linear source for Zone 1 Group IIC:

Li = 0mH	Lo =	2	1	uH	
Ci = 17.6uF	Co =	13.4	25.4	uF	

Maximum values, linear source for Zone 1 Group IIB:

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

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9.2.2 Area dust

제12-0317호

안 전 인 증 서

R. STAHL HMI Systems GmbH

Im Gewerbegebiet Pesch 14, 50767 Cologne Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

품 목

Operator Interface

형식 · 모델 / 용량 · 등급 / 인증번호

형식·모델	용량 · 등급	인증번호
ET-**6-A-*-***	Power supply: 24VDC, 1.5A 첨부 인증조건(12-0317) 참조	12-GA4BO-0317X
	Ex ia tb [ia ib] IIIC T80℃ Db IP66	

인 증 기 준

방호장치 의무안전인증 고시(고용노동부고시 제2010-36호)

인 증 조 건

T80℃(Tamb : -20℃ ~ +55℃)
Front: -30℃ ~ +55℃

2012 년 5 월 29 일

한국가스안전공사 사장

인 증 조 건

1. 제조공장:
   Im Gewerbegebiet Pesch 14, 50767 Cologne Germany에 위치한
   R. STAHL HMI Systems GmbH 공장에서 생산한 제품 중 아래 인증범위의 제품에 한함.

2. 제품개요

   The Exicom ET-**6-A-*-***devices are operator interfaces or panel PCs for installation in hazardous locations classified for zones21,22. The entire devices are built in housings that are protected against dust without need to be installed in hazardous locations certified cabinets.

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함
   품목 명 Operator Interface, 모델 명 ET-**6-A-*-***에 한하여 인증함.
   첨부 인증조건(12-0317) 참조.

4. 안전한 사용을 위한 조건

   For ET-**6-A-*-*SR*: The front of the operator interface equipped with a sunlight readable display(type code includes "SR") may be cleaned with a damp cloth only.

5. 인증(변경)사항

6. 그 밖의 사항

   안전인증품의 품질관리. 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수

[첨 부]

인 증 조 건(12-0317)

1. External, non-intrinsically safe circuits

1.1 Input voltage(X1)
- Rated voltage: 24VDC(+20% / -15%)
- max. voltage Um: 30VAC
- Rated current: 1.5A

1.2 RS-422/-232 COM1(X2)
- Rated voltage: RS232: ∓12VDC; RS422: 5VDC
- max. voltage Um: 253VAC

1.3 Audio out(X3)
- Rated voltage: 5VDC
- max. voltage Um: 253VAC

1.4 USB-1(X5)
- Rated voltage: 5VDC
- max. voltage Um: 253VAC

1.5 USB-3(X7)
- Rated voltage: 5VDC
- max. voltage Um: 253VAC

1.6 LAN(X11)
- Rated voltage: 5VDC
- max. voltage Um: 30VAC

2. External intrinsically safe circuits

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

Uo = 5.9V
Io = 2.18A
Po = 1.24W

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

Li = 0mH	Lo = 0.01	0.005	0.002	0.001	mH
Ci = 0uF	Co = 5.1	11	28	43	uF

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

Li = 0mH	Lo = 0.05	0.002	0.01	0.005	mH
Ci = 0uF	Co = 14	40	79	200	uF

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

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

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

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

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

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

(1/3)

인 증 조 건(12-0317)

2.2.2 Reader-2-RSi1 module supply input, terminal X8.2(bridged to X8.0)
Ui = 12.4V
Ii = 220mA
Pi = 2.29W
Li = 0mH
Ci = 25nF
2.2.3 Reader-2-RSi1 power supply for reader, terminals X8.3-4
Uo = 5.36V
Io = 220mA
Po = 1.18W
Maximum values, rectangular source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002 0.001 mH
Ci = 5.3uF Co = 40.7 59.7 uF
Maximum values, rectangular source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02 0.01 mH
Ci = 5.3uF Co = 70.7 124.7 uF
2.2.4 Reader-2-Rsi1 and -Rsi2 signal input/output, terminals X8.5-8
Ui = 15V Uo = 5.36V
Ii = 500mA Io = 46mA
Pi = 2.5W Po = 62mW
Maximum values, linear source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002mH
Ci = 0uF Co = 46uF
Maximum values, linear source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02mH
Ci = 0uF Co = 79uF
2.3 ET-Reader-2-WCR1 and WCR2(X8)
2.3.1 Reader-2-WCR1 module supply(from external is-power supply) terminal X8.1-2
Ui = 11.4V
Ii = 200mA
Pi = 2.28W
Li = 0mH
Ci = 25nF
2.3.2 Reader-2-WCR1 power supply for reader, terminals X8.3-4
Uo = 5.88V
Io = 200mA
Po = 1.18W
Maximum values, rectangular source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002 0.001 mH
Ci = 5.3uF Co = 27.7 37.7 uF
Maximum values, rectangular source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02 0.01 mH
Ci = 5.3uF Co = 55.7 94.7 uF
2.3.3 Reader-2-WCR1 and -WCR2 signal input/output, X8.5-8
Ui = 15V Uo = 5.88V
Ii = 500mA Io = 51mA
Pi = 2.5W Po = 75mW
Maximum values, linear source for Zone 1 Group IIC:
Li = 0mH Lo = 0.002mH
Ci = 0uF Co = 34uF
Maximum values, linear source for Zone 1 Group IIB:
Li = 0mH Lo = 0.02mH
Ci = 0uF Co = 63uF

(2/3)

인 증 조 건(12-0317)

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

Uo = 5.88V
Io = 200mA
Po = 1.18W

Maximum values, rectangular source for Zone 1 Group IIC:

Li = 0mH	Lo =	2	1	uH	
Ci = 17.6uF	Co =	15.4	25.4	uF	

Maximum values, rectangular source for Zone 1 Group IIB:

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

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

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

Maximum values, linear source for Zone 1 Group IIC:

Li = 0mH	Lo =	2	1	uH	
Ci = 17.6uF	Co =	13.4	25.4	uF	

Maximum values, linear source for Zone 1 Group IIB:

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

(3/3)

9.3 Customer confirmation letter

Customer confirmation letter
납품처 확인서

1. Delivery Overview/ 납품 개요

   - Target company name / 대상 회사명: (exporter/(수출자)
   - Usage / 용도: (product name / 제품명)
   - Model and quantity / 모델 및 수량:

     (product number / type number) - (quantity) / (제품 품번 / 타입번호) - (수량)

2. Overview of domestic imports of products / 제품의 국내 수입 개요

   The above (product name, model, quantity) are imported from (company name) and then delivered to the supplier (company name) (if there is an intermediary seller), the products are all overseas (country name) will be re-exported.
   상기의 (제품명, 모델, 수량)은 제조사(회사명), (중간판매상이 있을 경우 기입,) 납품처 (회사명) 로 납품하는 것으로서, 해당 제품은 모두 해외(나라이름)로 재 수출되는 것입니다.

3. According to the contract between (importer), (if there is an intermediary seller), and the supplier (company name), the product has been imported, and according to the contract of the (supplier), all are re-exported abroad. I will confirm.

   (수입자), (중간판매상 있을경우 기입), 납품처(회사명) 간 계약에 따라, 해당 제품 수입진행 하였으며, (납품처)의 계약서에 따라, 모두 해외로 재 수출되는 것임을 확인 드립니다.

   Year Month Day / 년 월 일
   Manager / 담당자 :
   contact / 연락처 :
   (Company Name) / (회사명)

4. Attachments:

- Customer PO / 고객 PO
- Owner PO of customer (in case of re-exporter) / 고객의 소유자 PO(재수출자의 경우)
- Product photo / 제품 사진
- Catalogue / 카탈로그
- Invoice / Packing list / B/L / 송장 / 포장 목록 / B/L
- Business registration / 사업자 등록

10 Marine certification ABS

Electronically published by ABS Hamburg.
Reference T1895092, dated 09-OCT-2019.

CERTIFICATE NUMBER 19-HG1895092-PDA
EFFECTIVE DATE 09-Oct-2019
EXPIRATION DATE 08-Oct-2024
ABS TECHNICAL OFFICE Hamburg Engineering Department

CERTIFICATE OF

Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

R. STAHL HMI SYSTEMS GMBH

located at

EMC LABORATORY, ADOLF-GRIMME-ALLEE 8, D-50829 KOELN, Germany

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product **Monitor, Panel PC and TFT Monitor Units**

Model **ET/MT-xy6-A-z-BS/BT (See description for x, y & z)**

This Product Design Assessment (PDA) Certificate remains valid until 08/Oct/2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau of Shipping

Efstratios Maliatsos, Engineer/Consultant

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

Certificate of Product Design Assessment Rev.3 Page 1 of 1

Electronically published by ABS Hamburg.
Reference T1895092, dated 09-OCT-2019.

R. STAHL HMI SYSTEMS GMBH
EMC LABORATORY
ADOLF-GRIMME-ALLEE 8
D-50829 KOELN
Germany
Telephone: +49 (0)221 59808-200
Fax: +49 (0)221 59808-260
Email: office@stahl-hmi.de
Web: www.stahl-hmi.de

Tier: 5 - Unit Certification Required

Product: **Monitor, Panel PC and TFT Monitor Units**
Model: **ET/MT-xy6-A-z-BS/BT (See description for x, y & z)**
Intended Service:
Panels PC for monitoring and control functions on AMS, ACC, ACCU, ABCU Classed Vessels.

Description:
The ET/MT-xx6-A HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 2 and 22 with outputs for zones 1 and 21.

ET/MT-xy6-A-z-(BS/BT) where: -
x = Type code (3 = EAGLE, 4 = Open HMI panel PC, 5 = Remote HMI thin client)
y = Size code (0,1 = 10.4" display, 3 = 15" display, 5 = 19" display)
z - Ethernet interface (FX = Fiber optic, TX = Copper cable)
BS = Single-core processor
BT = Quad-core processor

Hardware Revision: 03

Rating:
Power supply: 24V DC (20.4 ~ 28.8 VDC),
Ambient Temperature: -20° C (-30° C with heater) to 55° C
Degree of protection: IP66 (front and back side)

Explosion proof rating for ET-xx6-A-TX (TUV 11 ATEX 7041 X):
- II 2 (2) G Ex d e ia ib mb [ia ib] IIC T4 Gb
- II 2 (2) D Ex ia tb [ia ib] IIIC T80°C Db IP66

Explosion proof rating for ET-xx6-A-FX (TUV 11 ATEX 7041 X):
- II 2 (2) G Ex d e ia ib mb [ia ib op is] IIC T4 Gb
- II 2 (2) D Ex ia tb [ia ib op is] IIIC T80°C Db IP66

Explosion proof rating for MT-xx6-A-TX (TUV 11 ATEX 7103 X):
- II 3 (2/3) G Ex d e ia ib mb nA [ib Gb] [ic] IIC T4 Gc
- II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66

Explosion proof rating for MT-xx6-A-FX (TUV 11 ATEX 7103 X):
- II 3 (2/3) G Ex d e ia ib mb nA [ib op is Gb] [ic] IIC T4 Gc
- II 3 (2/3) D Ex ia tc [ib Db] [ic] IIIC T80°C Dc IP66

Service Restriction:
1. Unit Certification is required for this product if it is incorporated in a Category II or Category III system as detailed in 4-9-3/Table 1 of the ABS Marine Vessel Rules. The required evidence is to be kept by the manufacturer in accordance with 4-9-3/Table 2 of ABS Marine Vessel Rules.
2. Installation of the units, as per manufacturer's instructions.
3. ATEX certified equipment is not to be installed in hazardous areas on U.S vessels unless it can be prove to have ~~been tested to the applicable IEC 60079 series standards by an independent laboratory accepted by the U.S coast~~ Guard. USCG notice 01-12 (February 7, 2012).

Comments:
1. Each application/ installation and the user operating software is to be specifically approved in conjunction with the relevant system in which the units are being used.
2. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.

Notes/Drawing/Documentation:
Design Documents:

Electronically published by ABS Hamburg.
Reference T1895092, dated 09-OCT-2019.

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Web: www.stahl-hmi.de

Tier: 5 - Unit Certification Required

Drawing No. 12100020, ET-xx6-Q72ETX-1 CPU-Cooler, Revision: 01, Pages: 1
Drawing No. 12100021, ET-xx6-Q72ETX-1 Heat Spreader, Revision: 01, Pages: 1
Drawing No. 2004 11 01 2 L_HWR2-xx, BRICK Power Supply- Eagle-PS1-2 HWR 2- xx Layout, Revision: 0, Pages: 6
Drawing No. 2004 11 01 2 S, BRICK Power Supply- EAGLE-PS-1-2_SCHEMATIC_HwRev 2_24, Revision: 0, Pages: 12
Drawing No. 2004 11 01 2_Eagle PS-1, BRICK Power Supply- EAGLE-PS-1_Bestueckungsplan, Revision: 0, Pages: 2
Drawing No. 2005 26 01 0 S_HWR01x, EAGLE-TADAPT-1_HWR01x_Schematic, Revision: 0, Pages: 1
Drawing No. 2005 41 53 2_ET-MT, ET-MT-xx6-A_Moaufbau, Revision: 0, Pages: 1
Drawing No. 2005 41 54 2, ET-MT-xx6-A_Moaufbau, Revision: 0, Pages: 1
Drawing No. 2005 47 01 0 S, EAGLE-ENET-1 HWR 0-xx Shematic, Revision: 0, Pages: 1
Drawing No. 2009 19 04 1 S_HWR11X, EAGLE-BUS-31_HWR11X_SCHEMATIC_Standard, Revision: 0, Pages: 1
Drawing No. 2009 19 05 1 S_HWR11X, EAGLE-BUS-32_HWR11X_SCHEMATIC_Standard, Revision: 0, Pages: 1
Drawing No. 2009 19 07 2 FX S_HWR214, BRICK CPU- EAGLE-BB-3_HWR214_Schematic-100BaseFX, Revision: 0, Pages: 9
Drawing No. 2009 19 07 2 FX S_HWR222, BRICK CPU- EAGLE-BB-3_HWR222_Schematic-100BaseTX, Revision: 0, Pages: 8
Drawing No. 2009 19 09 2 P_HWR 2-1X, EAGLE-IFB-3 HWR 2-1X Bestueckung, Revision: 0, Pages: 2
Drawing No. 2009 19 09 2 S, EAGLE-IFB-3_HWR211_Shematic, Revision: 0, Pages: 8
Drawing No. 2010 10 01 3 S_HWR31X, EAGLE-DISPX-3_HWR31X_DualLVDS_SCHEMATIC, Revision: 0, Pages: 2
Drawing No. 2010 13 7003 0, Block Structure For Operator Panels, Type: ET-xx6-A, Revision: 0, Pages: 1
Drawing No. 2010 23 01 0 P_HW 0-XX, EAGLE-CONV-31 HWR 0-XX Bestueckung, Revision: 0, Pages: 1
Drawing No. 2010 23 01 0 S, EAGLE-CONV-31_HWR032_SHEMATIC_SXGA, Revision: 0, Pages: 1
Drawing No. 2010 30 7002 0, Eagle3_ET-MT-xx6-A_Blockdiagram, Revision: 3, Pages: 8
Drawing No. 2010 47 7000 0_Eagle, EAGLE-REV3_Internal-Wiring, Revision: 3, Pages: 1
Drawing No. 2011 02 52 1, CPU Brick-Module- ET-MT-xx6-A_LX800-N270-BSBT_, Revision: 0, Pages: 3
Drawing No. 2011 37 50 0, ET-MT-x56-A Front Panel Connection, Revision: 0, Pages: 2
Drawing No. 2011 37 51 0_Front, ET-MT-x56-A Front Design, Revision: 0, Pages: 1
Drawing No. 2011 37 52 0, ET-MT-x56-A Polyester design foil, Revision: 0, Pages: 1
Drawing No. 2011 37 53 0_Eagle 19, ET-MT-x56-A Eagle 19-Display, Revision: 0, Pages: 4
Drawing No. 2017 41 7000 0, CPU Brick modul- Montage- ET-xx6-A-TX-BT-M2, Revision: 0, Pages: 9
Drawing No. LY101036602VC04, BRICK CPU- Q72ETX-1_M 2, Revision: 1, Pages: 1

Test Reports:
Drawing No. E190844E1, ET-436-A EMC Test by Phoenix Testlab, Dated: 01 August 2019, Revision: 0, Pages: 41
Drawing No. ETMT-436-A-TX-BSBT, Monitoring for EMC & Environmental Testing, Revision: 02, Pages: 11
Drawing No. TR_2019207001, LR Witness_Humidity-Test, Dated: 13 June 2019, Revision: -, Pages: 7
Drawing No. TR_2019217001, LR Witness_Dry-Heat-Test, Dated: 03 June 2019, Revision: -, Pages: 8
Drawing No. TR_2019227001, LR Witness_Low Temperature Test, Dated: 27 June 2019, Revision: -, Pages: 5
Drawing No. TR_2019237001, LR Witness_Low Temperature Test, Dated: 21 June 2019, Revision: -, Pages: 7

Terms of Validity:
This Product Design Assessment (PDA) Certificate remains valid until 08/Oct/2024 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

Electronically published by ABS Hamburg.
Reference T1895092, dated 09-OCT-2019.

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Tier: 5 - Unit Certification Required

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:
Rules for Conditions of Classification (2019) – 1-1-4/7.7, 1-1-A3, 1-1-A4, which covers the following:
2019 Marine Vessel Rules: 4-9-3/ 5.1.1 to 5.1.5, 4-9-3/11.3, 4-9-3/11.5, 4-9-9/7, 4-9-9/13
2019 Steel Vessel Rules: 4-9-3/ 5.1.1 to 5.1.5, 4-9-3/11.3, 4-9-3/11.5, 4-9-8/7, 4-9-8/13
2019 Offshore Support Vessel Rules: 4-9-3/ 5.1.1 to 5.1.5, 4-9-3/11.3, 4-9-3/11.5, 4-9-8/7, 4-9-8/13

National:
NA

International:
NA

Government:
NA

EUMED:
NA

OTHERS:
NA

11 Marine certification DNV

DNV

TYPE APPROVAL CERTIFICATE

Certificate No:
TAA00000WA
Revision No:
2

This is to certify:

That the Peripheral Equipment

with type designation(s)
SERIES 300 Operator Interfaces, SERIES 400 Panel PC, SERIES 500 Thin Clients

Issued to
R. Stahl HMI Systems GmbH
Köln, Nordrhein-Westfalen, Germany

is found to comply with
DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Location classes:

Temperature	**A**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**B**

Issued at **Hamburg** on **2021-12-06**

This Certificate is valid until **2026-12-05**.
DNV local station: **Essen**

Approval Engineer: **Heinz Scheffler**

for **DNV**
Digitally Signed By: Papanuskas, Joannis
Location: DNV GL SE Hamburg, Germany

Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-001689-11**
Certificate No: **TAA00000WA**
Revision No: **2**

Product description

SERIES 300 Operator Interfaces

Classification product key	Description
MT-3x6-A-aa-BS-bb-Rx-dd-ee-ff	HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 2 and 22 with outputs for zones 1 and 21.
ET-3x6-A-aa-BS-bb-Rx-dd-ee-ff	HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 1, 2, 21 and 22 according to ATEX directive.
MT/ET-3**0**6-A-aa-BS-bb-Rx-dd-ee-ff	10.4" display
MT/ET-3**1**6-A-aa-BS-bb-Rx-dd-ee-ff	10.4" display
MT/ET-3**3**6-A-aa-BS-bb-Rx-dd-ee-ff	15" display
MT/ET-3x6-A-**FX**-BS-bb-Rx-dd-ee-ff	Optical fiber Ethernet interface 100Base-FX (Ex op is)
MT/ET-3x6-A-**TX**-BS-bb-Rx-dd-ee-ff	Copper Ethernet interface 10/100Base-TX (Ex nA)
MT/ET-3x6-A-aa-BS-**TFT**-Rx-dd-ee-ff	TFT Display (Standard)
MT/ET-3x6-A-aa-BS-**SR**-Rx-dd-ee-ff	Sunlight readable Display 1000 cd/m²
MT/ET-3x6-A-aa-BS-bb-**R2**-dd-ee-ff	2 GB RAM
MT/ET-3x6-A-aa-BS-bb-Rx-**16GB**-ee-ff	16 GB Solid State Drive
MT/ET-3x6-A-aa-BS-bb-Rx-dd-**RSi1**-ff	Plug-in module for reader with RS-232 interface, power supply via HMI device
MT/ET-3x6-A-aa-BS-bb-Rx-dd-ee-**PES**	Polyester front plate

SERIES 400 Panel PC

Classification product key	Description
MT-4x6-A-aa-BS-bb-Rx-dd-ee-ff	HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 2 and 22 with outputs for zones 1 and 21.
ET-4x6-A-aa-BS-bb-Rx-dd-ee-ff	HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 1, 2, 21 and 22 according to ATEX directive.
MT/ET-**40**6-A-aa-BT-Rx-BB-cc-dd-ee	10.4" display with number / number block to the right of the display
MT/ET-**41**6-A-aa-BT-Rx-BB-cc-dd-ee	10.4" display
MT/ET-**43**6-A-aa-BT-Rx-BB-cc-dd-ee	15" display
MT/ET-**45**6-A-aa-BT-Rx-BB-cc-dd-ee	19" display
MT/ET-4x6-A-**FX**-BT-Rx-bb-cc-dd-ee	Optical fiber Ethernet interface 100Base-FX (Ex op is)
MT/ET-4x6-A-**TX**-BT-Rx-bb-cc-dd-ee	Copper Ethernet interface 10/100Base-TX (Ex nA)
MT/ET-4x6-A-aa-BT-**R3**-bb-cc-dd-ee	4 GB RAM
MT/ET-4x6-A-aa-BT-Rx-**TFT**-cc-dd-ee	TFT Display (Standard)
MT/ET-4x6-A-aa-BT-Rx-**SR**-cc-dd-ee	Sunlight readable Display 1000 cd/m²
MT/ET-4x6-A-aa-BT-Rx-bb-**64GB**-ee	64 GB Solid State Drive
MT/ET-4x6-A-aa-BT-Rx-bb-1**28GB**-ee	128 GB Solid State Drive
MT/ET-4x6-A-aa-BT-Rx-bb-cc-**RSi1**	Plug-in module for reader with RS-232 interface, power supply via HMI device
MT/ET-4x6-A-aa-BT-Rx-bb-cc-dd-**PES**	Polyester front plate
MT/ET-4x6-A-aa-BT-Rx-bb-cc-dd-**VA**	Stainless steel front plate (436 and 456 only), NOT SR type

Job Id: **262.1-001689-11**
Certificate No: **TAA00000WA**
Revision No: **2**

SERIES 500 Thin Clients

Classification product key	Description
MT-5x6-A-aa-BS-bb-Rx-dd-ee-ff	HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 2 and 22 with outputs for zones 1 and 21.
ET-5x6-A-aa-BS-bb-Rx-dd-ee-ff	HMI devices are explosion-proof equipment for installation in hazardous areas and can be installed in zones 1, 2, 21 and 22 according to ATEX directive.
MT/ET-5**1**6-A-aa-BT-Rx-BB-cc-dd-ee	10.4" display
MT/ET-5**3**6-A-aa-BT-Rx-BB-cc-dd-ee	15" display
MT/ET-5**5**6-A-aa-BT-Rx-BB-cc-dd-ee	19" display
MT/ET-5x6-A-**FX**-BT-Rx-bb-cc-dd-ee	Optical fiber Ethernet interface 100Base-FX (Ex op is)
MT/ET-5x6-A-**TX**-BT-Rx-bb-cc-dd-ee	Copper Ethernet interface 10/100Base-TX (Ex nA)
MT/ET-5x6-A-aa-BT-**R3**-bb-cc-dd-ee	4 GB RAM
MT/ET-5x6-A-aa-BT-Rx-**TFT**-cc-dd-ee	TFT Display (Standard)
MT/ET-5x6-A-aa-BT-Rx-**SR**-cc-dd-ee	Sunlight readable Display 1000 cd/m²
MT/ET-5x6-A-aa-BT-Rx-bb-**64GB**-ee	64 GB Solid State Drive
MT/ET-5x6-A-aa-BT-Rx-bb-1**28GB**-ee	128 GB Solid State Drive
MT/ET-5x6-A-aa-BT-Rx-bb-cc-**RSi1**	Plug-in module for reader with RS-232 interface, power supply via HMI device
MT/ET-5x6-A-aa-BT-Rx-bb-cc-dd-**PES**	Polyester front plate
MT/ET-5x6-A-aa-BT-Rx-bb-cc-dd-**VA**	Stainless steel front plate (536 and 556 only), NOT SR type

Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV Rules for Ships Pt.4 Ch.9 Control and Monitoring Systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to the Rules and Ex-Certification/ Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Product certificate
Each delivery of the application system is to be certified according to Pt.4 Ch.9 Sec.1. The certification test is to be performed at the manufacturer of the application system according to an approved test program before the system is shipped to the yard. After the certification the clause for application software control will be put into force.

Clause for application software control
All changes in software are to be recorded as long as the system is in use on board. The records of all changes are to be forwarded to DNV for evaluation and approval. Major changes in the software are to be approved before being installed in the computer.

Type Approval documentation

Test Reports:
Test Report No.: E61616; U61616; E71865; U71865; E110562E1; U110562E1; E120850E1, U120850E1; 2019 22 7001 R.Stahl HMI, 2019 21 7001 R.Stahl HMI; 2019 20 7001 R.Stahl HMI; E190844E1 2nd version.

Documentation:
List of Type Approval documentation-TAA00000WA_20211126; Manuals: OI_ET_xx6_A_en_V_03_00_36; OI_MT_xx6_A_en_V_03_00_27; Ex Certificate IECEx TUR 11.0006X; IECEx TUR 11.0015X; 20155070016 Konformitätserklärung ET-xx6-A; 20155070026 Konformitätserklärung MT-xx6-A

Job Id: **262.1-001689-11**
Certificate No: **TAA00000WA**
Revision No: **2**

Tests carried out

Applicable tests according to Class Guidance DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.
The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE

12 Marine certification LR

Lloyd's Register

Page 1 of 2
Certificate No: LR21402888TA
Issue Date: 28/10/2021
Expiry Date: 28/09/2026

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer **R. Stahl HMI Systems GmbH**

Address Im Gewerbegebiet Pesch 14, Köln, 50767, Germany

Type Computer Systems

Description Panel PC

TYPE Ex-devices:
ET-306-A ET-316-A, ET-336-A, ET-406-A, ET-416-A, ET-436-A, ET-536-A
ET- 306-A-*-BS, 316-A-*-BS, 336-A-*-BS
ET- 406-A-*-BT, 416-A-*-BT, 436-A-*-BT, 536-A-*-BT

Non Ex-devices:
MT-306-A, MT-316-A, MT-336-A, MT-406-A, MT-416-A, MT-436-A, MT-536-A
MT- 306-A-*-BS, 316-A-*-BS, 336-A-*-BS
MT- 406-A-*-BT, 416-A-*-BT, 436-A-*-BT, 536-A-*-BT

Processortype:
(BS) = Single-Core
(BT) = Quad-Core

(*) Ethernet interface:
FX = Fibre optic
TX = Copper cable

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TA01 1.0.0

Lloyd's Register

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Expiry Date: 28/09/2026

Type Approval Certificate

Trade Name	ET (Ex-devices) and MT (non Ex-devices)
Application	Marine and offshore applications for use in environmental categories ENV1 and ENV2 as defined in Lloyd's Register's Type Approval System Test Specification No. 1 - 2002.
Specified Standard	Manufacturer's Specification IACS Unified Requirements E10 (Rev.7 Oct 2018)
Ratings	Power supply: 24VDC Degree of protection: IP66 (front and backside)
Other Conditions	Ratings of Panel PC type ET-xx6-A for application in hazardous areas are to be obtained from the applicable Ex Certificates.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 11-20035(E1)-02

The Design Appraisal Document HTS/ETS 41839-21/HN/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Expiry Date: 28.09.2026
Reference: HTS/ETS 41839_21/HN/TW

LLOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT
ISSUED BY: HAMBURG TECHNICAL SUPPORT OFFICE (HPC 1762082)
ISSUED TO: R. STAHL HMI SYSTEMS GMBH
FOR: PANEL PC - COMPUTER SYSTEMS,
TYPES: ET (Ex-devices) und MT (non Ex-devices) ET-306-A ET-316-A, ET-336-A, ET-406-A, ET-416-A, ET-436-A, ET-536-A, ET- 306-A-*-BS, 316-A-*-BS, 336-A-*-BS, ET-406-A-*-BT, 416-A-*-BT, 436-A-*-BT, 536-A-*-BT, MT-306-A, MT-316-A, MT-336-A, MT-406-A, MT-416-A, MT-436-A, MT-536-A, MT- 306-A-*-BS, 316-A-*-BS, 336-A-*-BS, MT- 406-A-*-BT, 416-A-*-BT, 436-A-*-BT, 536-A-*-BT

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 04 (September 2020) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Unnumbered	Type Approval Application Checklist	13.09.2021
SQ 25661	Request for Marine Services	17.09.2021
11-20035(E1)-02	Type Approval Certificate	29.05.2020
40028-20	Design Appraisal Document (11-20035(E1)-02)	29.05.2020
HPC 1762082	Production Quality Assessment	26.10.2021
unnumbered	Declaration of Typecode	undated

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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.

13 Release Notes

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

Version 03.00.24

- Correction of phone and fax no.
- Correction of certification designation KGS for Korea -> into KCS
- Changing DNV / GL -> into DNV
- Conversion section Indian certification
- Addition of BIS certification for ET-x16-A-* and ET-x36-A-* devices
- Formal changes

Version 03.00.25

- Removal of EAC certificate
- Renew BIS certificate 2024
- Update INMETRO certificate
- Formal changes

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