



# Operating Instruction



## Keyboards KBDi

Version KBD(i)-PS2-\*\*

Version KBD(i)-\*\*\*-PS2-\*\*

Version KBDi-JS2-PS2-\*\*



THE STRONGEST LINK.

Operating instruction version:  
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## Disclaimer

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## Specific markings


The markings in these operating instructions refer to specific features that must be noted.


In detail, these are:


 <b>DANGER</b>	This sign alerts users to hazards that <b>will</b> result in death or serious injury if ignored !
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 <b>WARNING</b>	This sign alerts users to hazards that <b>may</b> result in death or serious injury if ignored !
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 <b>CAUTION</b>	This sign alerts users to hazards that may damage machinery or equipment or result in injury if ignored !
--	---

 <b>ATTENTION</b>	Information highlighted by this symbol indicates measures for the prevention of damage to machinery or equipment !
--	--

 <b>NOTICE</b>	Information highlighted by this symbol indicates important information of which particular note should be taken !
--	---

 <b>DOCUMENTATION</b>	Information highlighted by this symbol refers to a different chapter or section in this manual or other documentation or a web-page !
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## Warnings

	<p>Caution !</p> <p>In ambient temperatures exceeding +45 °C the surface of the devices may heat up. Caution when touching !</p>
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## 1 Preface

These operating instructions are intended for the safe installation of the KBD(i). Furthermore, these operating instructions contain all necessary information for assembly and connection of the keyboards.

 <b>NOTICE</b>	<p>All data relevant to explosion protection from the EC-type examination certificate were copied into these operating instructions.</p>
	<p>For the correct operation of all associated components please note, in addition to these operating instructions, all other operating instructions enclosed in this delivery as well as the operating instructions of the additional equipment to be connected !</p>

 <b>DOCUMENTATION</b>	<p>Please note that all certificates of the KBD(i) keyboards can be found in a separate document (CE_Keyboard_KBDi). You can find this document in the internet at <a href="http://www.r-stahl.com">www.r-stahl.com</a> or request it from R. STAHL HMI Systems GmbH.</p>
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## 2 Function


The type KBD(i) keyboards are used to enter data, commands etc. on PCs and similar devices in hazardous areas.

The type KBD(i) keyboards are explosion-protected equipment for installation in hazardous areas, variant KBD(i)-PS2-\*\* and KBDi-JS2-PS2-\*\* in zone 1 and 2, variant KBD(i)-\*\*\*-PS2-\*\* in zone 1, 2, 21 and 22. The devices may be connected to intrinsically safe PS2 interfaces. Power supply and data communication takes place via the PS2 interface. The keyboards are connected with a fixed cable.

Various keyboard versions are available that differ in their layout (German, English, French) and in their design (PC keyboard with trackball or with joystick).

The keyboards can be mounted inside a front panel or a desktop housing.

### 2.1 Version KBD(i)-JS-PS2-\*\*

 <b>NOTICE</b>	<p>Due to the discontinuation of various components the keyboard version with joystick type KBD(i)-<b>JS</b>-PS2-** can no longer be produced and delivered. As an alternative, the keyboard version with joystick 2 (type KBDi-<b>JS2</b>-PS2-**) is available.</p>
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### 3 Technical data

Keyboard	KBD(i)-PS2-**	KBD(i)-***-PS2-**	KBD(i)-JS2-PS2-**
Power supply	via PS2 interface		
Connections	via a fixed connected cable, max. length 1.5 m / [4.92 ft]		
Cable type	LIYCY 0.14 mm <sup>2</sup> / AWG26		
Cable wire (numbers)	4 + PE	8 + PE	
Keyboard layout (standard)	German (QWERTZ), American (QWERTY), French (AZERTY)		
Keyboard numbers	105	107	
Key technology	short stroke keys		
Actuation force / -travel	2.6 N / 0.3 mm		
Lifetime	> 3 Mio. operations		
Equipment	-	with Trackball or Joystick	with Joystick
Trackball	-		-
Ball diameter [mm]	-	50	-
Actuation force / -travel	-	50 g	-
Lifetime	-	> 1 Mio. Ball rotations	-
Joystick	-		
Length [mm]	-	60	60
Actuation force / -travel	-	< 60 Nm / +25°	< 60 Nm / +25°
Lifetime	-	> 1 Mio. operations	> 1 Mio. operations
Ambiant conditions			
Operating temperature	-10 °C ... +60 °C / [14 °F ... 140 °F]		
Installation	inside a front panel or a desktop housing		
Cut-out (W x H) [mm] / [ft]	447 x 152 (± 0.5) / [1.47] x [0.5] [± 0.0016]		
Enclosure	Aluminium		
Ingress protection	IP65		
at Trackball module	-	IP54 dynamic	-
Dimensions [mm] / [ft]	without cable and cable glands		
Wide x Height (W x H)	490 x 185 / [1.61] x [0.61]		
Depth (D)	20 / [0.066]	50 / [0.16]	
Weight [kg] / [lbs]	1.8 / [3.97]	2.5 / [5.5]	

### 4 Conformity to standards

The KBD(i) keyboards comply with the following standards and the following directive:

#### 4.1 KBD(i)-PS2-\*\* keyboard version

Standard	Classification
<b>1<sup>st</sup> supplement</b>	
<b>ATEX directive 2014/34/EU</b>	
EN 60079-0 : 2012 + A11 : 2013	General requirements
EN 60079-11 : 2012	Intrinsic safety "i"
<b>The product corresponds to requirements from:</b>	
EN IEC 60079-0 : 2018	General requirements
<b>Electromagnetic compatibility</b>	
<b>EMC directive 2014/30/EU</b>	<b>Classification</b>
EN 61326-1 : 2013	General requirements
EN 61000-6-2 : 2005	Immunity
EN 61000-6-4 : 2007 + A1 : 2011	Emission
<b>RoHS directive</b>	
<b>2011/65/EU</b>	<b>Classification</b>
EN IEC 63000 : 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

#### 4.2 KBD(i)-\*\*\*-PS2-\*\* keyboard version

Standard	Classification
2 <sup>nd</sup> supplement	
<b>ATEX directive 2014/34/EU</b>	
EN 60079-0 : 2009	General requirements
EN 60079-11 : 2007	Intrinsic safety "i"
EN 61241-11 : 2006	Protection by intrinsic safety "iD" (dust)
<b>The product corresponds to requirements from:</b>	
EN 60079-0 : 2012	General requirements
EN IEC 60079-0 : 2018	
EN 60079-11 : 2012	
<b>Electromagnetic compatibility</b>	
<b>EMC directive 2014/30/EU</b>	<b>Classification</b>
EN 61326-1 : 2013	General requirements
EN 61000-6-2 : 2005	Immunity
EN 61000-6-4 : 2007 + A1 : 2011	Emission
<b>RoHS directive</b>	
<b>2011/65/EU</b>	<b>Classification</b>
EN IEC 63000 : 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

#### 4.3 KBDi-JS2-PS2-\*\* keyboard version

Standard	Classification
<b>ATEX directive 2014/34/EU</b>	
<b>Original certificate</b>	
EN 60079-0 : 2012 + A11 : 2013	General requirements
EN 60079-11 : 2012	Intrinsic safety "i"
<b>Electromagnetic compatibility</b>	
<b>EMC directive 2014/30/EU</b>	<b>Classification</b>
EN 61326-1 : 2013	General requirements
EN 61000-6-2 : 2005	Immunity
EN 61000-6-4 : 2007 + A1 : 2011	Emission
<b>RoHS directive</b>	
<b>2011/65/EU</b>	<b>Classification</b>
EN IEC 63000 : 2018	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances



## 5 Certifications



### DOCUMENTATION

You can access all IECEx certificates on the official website of the IEC under their certificate number.

<https://www.iecex-certs.com/#/home>.

### 5.1 KBD(i)-PS2-\*\* keyboard version

The KBD(i)-PS2-\*\* keyboards have been approved for the following zones / regions:

Synonym	Scope	Certificate number	Valid until	Comment
CE	Europe		unlimited	According to directive 2014/30/EU
ATEX	Europe	BVS 06 ATEX E 080	unlimited	
IECEX	Global	IECEX BVS 06.0015	unlimited	

### 5.2 KBD(i)-\*\*\*-PS2-\*\* keyboard version

The KBD(i)-\*\*\*-PS2-\*\* keyboards have been approved for the following zones / regions:

Synonym	Scope	Certificate number	Valid until	Comment
CE	Europe		unlimited	According to directive 2014/30/EU
ATEX	Europe	BVS 07 ATEX E 019	unlimited	
IECEX	Global	IECEX BVS 07.0002	unlimited	

Only keyboard version KBD(i)-JS-PS2-\*\* (no longer available):

Synonym	Scope	Certificate number	Valid until	Comment
NEC®	USA	CSA 2591397	unlimited	
CE Code	Canada		unlimited	

### 5.3 KBDi-JS2-PS2-\*\* keyboard version

The KBDi-JS2-PS2-\*\* keyboards have been approved for the following zones / regions:





Synonym	Scope	Certificate number	Valid until	Comment
CE	Europe		unlimited	According to directive 2014/30/EU
ATEX	Europe	BVS 16 ATEX E 122	unlimited	
IECEX	Global	IECEX BVS 16.0088	unlimited	

### 5.4 KBDi-TB50-PS2-QY keyboard version

The KBDi-TB50-PS2-QY keyboards have been additionally approved for the following zones / regions:

Synonym	Scope	Certificate number	Valid until	Comment
BIS	India	R-41226106	22.05.2024	

## 6 Product identification

Manufacturer	R. STAHL HMI Systems GmbH	
Type code	KBD(i)-aaa-bbb-cc	
CE classification:	 0158	
KBD(i)-PS2-** keyboard version		
Testing authority and certificate number:	BVS 06 ATEX E 080 IECEX BVS 06.0015	
Ex classification:		
ATEX		II 2 G Ex ib IIC T4 Gb
IECEX		Ex ib IIC T4 Gb
KBD(i)-***-PS2-** keyboard version		
Testing authority and certificate number:	BVS 07 ATEX E 019 IECEX BVS 07.0002	
Ex classification:		
ATEX		II 2 G Ex ib IIC T4 Gb II 2 D Ex ib IIIB T90°C Db
IECEX		Ex ib IIC T4
KBD(i)-JS-PS2-** keyboard version		
CSA		Class I, Division 2, Groups A, B, C and D Ex ib IIC T4 Gb Class I, Zone 1, AEx ib IIC T4 Gb
KBDi-PS2-PS2-** keyboard version		
Testing authority and certificate number:	BVS 16 ATEX E 122 IECEX BVS 16.0088	
Ex classification:		
ATEX		II 2 G Ex ib IIC T4 Gb
IECEX		Ex ib IIC T4 Gb

## 7 Safety-related data

U <sub>i</sub> :	6 V
I <sub>i</sub> :	350 mA
P <sub>i</sub> :	1.2 W
C <sub>i</sub> :	14 µF (variant KBD(i)-PS2-**)
C <sub>i</sub> :	25 µF (variant KBD(i)-***-PS2-** and KBDi-JS2-PS2-**)
L <sub>i</sub> :	negligible

## 8 Ambient temperature range

The temperature range is -10 °C ... +60 °C

## 9 Proof of intrinsic safety

Proof of intrinsic safety for the connection of KBD(i) keyboards with ET-/MT-xx6/-A HMIs.

### 9.1 General information

Proof of intrinsic safety is based on the principles of IEC/EN 60079-14 and the standards referred to therein. Particular reference is made to Chapter 12 "Additional requirements for the type of protection i -intrinsic safety" in IEC/EN 60079-14.

Proof has been drawn up on the basis of conformity certification as per IEC/EN 60079-0 and IEC/EN 60079-11 or the EC type examination certificate in accordance with ATEX directive and the comparison of the safety-related data listed in these documents.

The following EC-type examination certificates were used:

<i>Device</i>		<i>EC type examination certificate</i>
ET-xx6	—	TÜV 05 ATEX 7176 X
MT-xx6	—	TÜV 07 ATEX 7471 X
ET-xx6-A	—	TÜV 11 ATEX 7041 X
MT-xx6-A	—	TÜV 11 ATEX 7103 X
KBD(i)-PS2-***	—	BVS 06 ATEX E 080
KBD(i)-TB-PS2-** KBD(i)-JS-PS2-**	—	BVS 07 ATEX E 019
KBDi-JS2-PS2-**	—	BVS 16 ATEX E 122

The testing authority has listed **all** conditions applicable to intrinsic safety in the EC type examination certificates.

If an EC type examination certificate for a device only specifies the input voltage ( $U_i$ ), for example, intrinsic safety is guaranteed if the associated supply does not exceed this voltage ( $U_o$  is less than / equals  $U_i$ ).


Other output parameters specified in the examination certificate of the power supply (e.g.  $I_o$ ,  $P_o$ ) are in this case irrelevant to intrinsic safety.

#### NOTICE

The data given in this document do **NOT** absolve the fitter and / or operator of the systems from their obligation to ensure compliance with legal requirements, directives and regulations. Due diligence remains the sole responsibility of the fitter and / or operator !

## 9.2 Interconnection

In this part we list the voltages, currents, capacitance and inductance values of all circuits to determine whether the KBD(i) keyboards may be connected with a standard cable of 1.5 metres to HMIs device platform EAGLE, SERIES 300 Operator Interfaces –, SERIES 400 – Panel PC's and SERIES 500 Thin Clients.

 <b>NOTICE</b>	<p>The data given for this interconnection do <b>NOT</b> absolve the fitter and / or operator of the systems from their obligation and responsibility to ensure compliance with legal requirements, directives and regulations. Due diligence remains the sole responsibility of the fitter and / or operator !</p>
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### 9.2.1 To ET-/MT-xx6 HMIs

#### a) ET-/MT-xx6 HMI with KBD(i)-PS2-\*\* keyboard

Source / active				==>	Acceptor / passive
ET-/MT-xx6					KBD(i)-PS2-**
Terminal X9					Keyboard connection
U <sub>o</sub> = 5.9 VDC				≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤	P <sub>i</sub> = 1.2 W
C <sub>oIC</sub> [μF] =	19	29	-	≥	C <sub>i</sub> = 14 μF
L <sub>oIC</sub> [μH] =	2	1	-	≥	Li negligible
C <sub>oIB</sub> [μF] =	23	46	86	≥	C <sub>i</sub> = 14 μF
L <sub>oIB</sub> [μH] =	50	20	10	≥	Li negligible

*C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.*

#### b) ET-/MT-xx6 HMI with KBD(i)-\*\*\*-PS2-\*\* keyboard

Source / active				==>	Acceptor / passive
ET-/MT-xx6					KBD(i)-***-PS2-**
Terminal X9					Keyboard connection
U <sub>o</sub> = 5.9 VDC				≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤	P <sub>i</sub> = 1.2 W
C <sub>oIC</sub> [μF] =	29	-		≥	C <sub>i</sub> = 25 μF
L <sub>oIC</sub> [μH] =	1	-		≥	Li negligible
C <sub>oIB</sub> [μF] =	46	86		≥	C <sub>i</sub> = 25 μF
L <sub>oIB</sub> [μH] =	20	10		≥	Li negligible

*C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.*

9.2.1 To ET-/MT-xx6-A HMIs

- for MT-xx6-A: with circuits in zone 1

a) ET-/MT-xx6-A HMI with KBD(i)-PS2-\*\* keyboard

Source / active				==>	Acceptor / passive
ET-/MT-xx6-A					KBD(i)-PS2-**
Terminal X9					Keyboard connection
U <sub>o</sub> = 5.88 VDC				≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤	P <sub>i</sub> = 1.2 W
C <sub>oIIC</sub> [μF] =	15.4	25.4	-	≥	C <sub>i</sub> = 14 μF
L <sub>oIIC</sub> [μH] =	2	1	-	≥	Li negligible
C <sub>oIIB</sub> [μF] =	20.4	43.4	82.4	≥	C <sub>i</sub> = 14 μF
L <sub>oIIB</sub> [μH] =	50	20	10	≥	Li negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

b) ET-/MT-xx6-A HMI with KBD(i)-\*\*\*-PS2-\*\* keyboard

Source / active				==>	Acceptor / passive
ET-/MT-xx6-A					KBD(i)-***-PS2-**
Terminal X9					Keyboard connection
U <sub>o</sub> = 5.88 VDC				≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤	P <sub>i</sub> = 1.2 W
C <sub>oIIC</sub> [μF] =	25.4	-	-	≥	C <sub>i</sub> = 25 μF
L <sub>oIIC</sub> [μH] =	1	-	-	≥	Li negligible
C <sub>oIIB</sub> [μF] =	43.4	82.4	-	≥	C <sub>i</sub> = 25 μF
L <sub>oIIB</sub> [μH] =	20	10	-	≥	Li negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

c) ET-/MT-xx6-A HMI with KBDi-JS2-PS2-\*\* keyboard

Source / active				==>	Acceptor / passive
ET-/MT-xx6-A					KBDi-JS2-PS2-**
Terminal X9					Keyboard connection
U <sub>o</sub> = 5.88 VDC				≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤	P <sub>i</sub> = 1.2 W
C <sub>oIIC</sub> [μF] =	25.4	-	-	≥	C <sub>i</sub> = 25 μF
L <sub>oIIC</sub> [μH] =	1	-	-	≥	Li negligible
C <sub>oIIB</sub> [μF] =	43.4	82.4	-	≥	C <sub>i</sub> = 25 μF
L <sub>oIIB</sub> [μH] =	20	10	-	≥	Li negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

- for MT-xx6-A: with circuits in zone 2

a) MT-xx6-A HMI with KBD(i)-PS2-<sup>\*\*</sup> keyboard

Source / active					==>	Acceptor / passive
MT-xx6-A						KBD(i)-PS2- <sup>**</sup>
Terminal X9						Keyboard connection
U <sub>o</sub> = 5.88 VDC					≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA					≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W					≤	P <sub>i</sub> = 1.2 W
C <sub>oIIC</sub> [μF] =	68.4	652.4	-	-	≥	C <sub>i</sub> 14 μF
L <sub>oIIC</sub> [μH] =	2	1	-	-	≥	L <sub>i</sub> negligible
C <sub>oIIB</sub> [μF] =	33.4	53.4	102.4	222.4	≥	C <sub>i</sub> 14 μF
L <sub>oIIB</sub> [μH] =	100	50	20	10	≥	L <sub>i</sub> negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

b) MT-xx6-A HMI with KBD(i)-<sup>\*\*\*</sup>-PS2-<sup>\*\*</sup> keyboard

Source / active					==>	Acceptor / passive
MT-xx6-A						KBD(i)- <sup>***</sup> -PS2- <sup>**</sup>
Terminal X9						Keyboard connection
U <sub>o</sub> = 5.88 VDC					≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA					≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W					≤	P <sub>i</sub> = 1.2 W
C <sub>oIIC</sub> [μF] =	68.4	652.4	-	-	≥	C <sub>i</sub> 25 μF
L <sub>oIIC</sub> [μH] =	2	1	-	-	≥	L <sub>i</sub> negligible
C <sub>oIIB</sub> [μF] =	33.4	53.4	102.4	222.4	≥	C <sub>i</sub> 25 μF
L <sub>oIIB</sub> [μH] =	100	50	20	10	≥	L <sub>i</sub> negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.


a) MT-xx6-A HMI with KBDi-JS2-PS2-<sup>\*\*</sup> keyboard

Source / active					==>	Acceptor / passive
MT-xx6-A						KBDi-JS2-PS2- <sup>**</sup>
Terminal X9						Keyboard connection
U <sub>o</sub> = 5.88 VDC					≤	U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA					≤	I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W					≤	P <sub>i</sub> = 1.2 W
C <sub>oIIC</sub> [μF] =	68.4	652.4	-	-	≥	C <sub>i</sub> 25 μF
L <sub>oIIC</sub> [μH] =	2	1	-	-	≥	L <sub>i</sub> negligible
C <sub>oIIB</sub> [μF] =	33.4	53.4	102.4	222.4	≥	C <sub>i</sub> 25 μF
L <sub>oIIB</sub> [μH] =	100	50	20	10	≥	L <sub>i</sub> negligible


C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

### 9.3 Interconnection with cable extension

In this part we list the voltages, currents, capacitance and inductance values of all circuits to determine whether the KBD(i) keyboards may be connected to HMIs device platform EAGLE, SERIES 300 Operator Interfaces – , SERIES 400 – Panel PC’s and SERIES 500 Thin Clients with a cable extension exceeding the standard cable length of 1.5 metres.

 <b>NOTICE</b>	The data given for this interconnection do <b>NOT</b> absolve the fitter and / or operator of the systems from their obligation and responsibility to ensure compliance with legal requirements, directives and regulations. Due diligence remains the sole responsibility of the fitter and / or operator !
---	--

If the fitter or operator themselves extend the keyboard cable, the maximum values that apply for the C and L cable values are the Δ delta values (differences) between the Co/Lo and Ci/Li values.

 <b>NOTICE</b>	Please note that we cannot comment on the functionality of such a cable extension.
---	--

#### 9.3.1 To ET-/MT-xx6 HMIs

a) ET-/MT-xx6 HMI with KBD(i)-PS2-\*\* keyboard

Source / active				==>				Acceptor / passive
ET-/MT-xx6								KBD(i)-PS2-**
Terminal X9								Keyboard connection
U <sub>o</sub> = 5.9 VDC				≤				U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤				I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤				P <sub>i</sub> = 1.2 W
Co <sub>IIC</sub> [μF] =	19	29	-	=> C cable [μF]	5	15	-	Ci = 14 μF
Lo <sub>IIC</sub> [μH] =	2	1	-	=> L cable [μH]	2	1	-	Li negligible
Co <sub>IIB</sub> [μF] =	23	46	86	=> C cable [μF]	9	32	72	Ci = 14 μF
Lo <sub>IIB</sub> [μH] =	50	20	10	=> L cable [μH]	50	20	10	Li negligible

*C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.*

b) ET-/MT-xx6 HMI with KBD(i)-\*\*\*-PS2-\*\* keyboard

Source / active				==>				Acceptor / passive
ET/MT-xx6								KBD(i)-***-PS2-**
Terminal X9								Keyboard connection
U <sub>o</sub> = 5.9 VDC				≤				U <sub>i</sub> = 6 VDC
I <sub>o</sub> = 200 mA				≤				I <sub>i</sub> = 350 mA
P <sub>o</sub> = 1.18 W				≤				P <sub>i</sub> = 1.2 W
Co <sub>IIC</sub> [μF] =	29	-	-	=> C cable [μF]	4	-	-	Ci = 25 μF
Lo <sub>IIC</sub> [μH] =	1	-	-	=> L cable [μH]	1	-	-	Li negligible
Co <sub>IIB</sub> [μF] =	46	86	-	=> C cable [μF]	21	61	-	Ci = 25 μF
Lo <sub>IIB</sub> [μH] =	20	10	-	=> L cable [μH]	20	10	-	Li negligible

*C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.*

9.3.2 To ET-/MT-xx6-A HMIs

- for MT-xx6-A: with circuits in zone 1

a) ET-/MT-xx6-A HMI with KBD(i)-PS2-\*\* keyboard

Source / active	==>							Acceptor / passive
ET-/MT-xx6-A								KBD(i)-PS2-**
Terminal X9								Keyboard connection
Uo = 5.88 VDC	≤							Ui = 6 VDC
Io = 200 mA	≤							Ii = 350 mA
Po = 1.18 W	≤							Pi = 1.2 W
CO <sub>IIC</sub> [μF] =	15.4	25.4	-	=> C cable [μF]	1.4	11.4	-	Ci 14 μF
LO <sub>IIC</sub> [μH] =	2	1	-	=> L cable [μH]	2	1	-	Li negligible
CO <sub>IIB</sub> [μF] =	20.4	43.4	82.4	=> C cable [μF]	6.4	29.4	68.4	Ci 14 μF
LO <sub>IIB</sub> [μH] =	50	20	10	=> L cable [μH]	50	20	10	Li negligible

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

b) ET-/MT-xx6-A HMI with KBD(i)-\*\*\*-PS2-\*\* keyboard

Source / active	==>							Acceptor / passive
ET-/MT-xx6-A								KBD(i)-***-PS2-**
Terminal X9								Keyboard connection
Uo = 5.88 VDC	≤							Ui = 6 VDC
Io = 200 mA	≤							Ii = 350 mA
Po = 1.18 W	≤							Pi = 1.2 W
CO <sub>IIC</sub> [μF] =	25.4	-	-	=> C cable [μF]	0.4	-	-	Ci 25 μF
LO <sub>IIC</sub> [μH] =	1	-	-	=> L cable [μH]	1	-	-	Li negligible
CO <sub>IIB</sub> [μF] =	43.4	82.4	-	=> C cable [μF]	18.4	57.4	-	Ci 25 μF
LO <sub>IIB</sub> [μH] =	20	10	-	=> L cable [μH]	20	10	-	Li negligible

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

c) ET-/MT-xx6-A HMI with KBDi-JS2-PS2-\*\* keyboard

Source / active	==>							Acceptor / passive
ET-/MT-xx6-A								KBDi-JS2-PS2-**
Terminal X9								Keyboard connection
Uo = 5.88 VDC	≤							Ui = 6 VDC
Io = 200 mA	≤							Ii = 350 mA
Po = 1.18 W	≤							Pi = 1.2 W
CO <sub>IIC</sub> [μF] =	25.4	-	-	=> C cable [μF]	0.4	-	-	Ci 25 μF
LO <sub>IIC</sub> [μH] =	1	-	-	=> L cable [μH]	1	-	-	Li negligible
CO <sub>IIB</sub> [μF] =	43.4	82.4	-	=> C cable [μF]	18.4	57.4	-	Ci 25 μF
LO <sub>IIB</sub> [μH] =	20	10	-	=> L cable [μH]	20	10	-	Li negligible

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



- for MT-xx6-A: with circuits in zone 2

a) MT-xx6-A HMI with KBD(i)-PS2-\*\* keyboard

Source / active					==>	Acceptor / passive				
MT-xx6-A						KBD(i)-PS2-**				
Terminal X9						Keyboard connection				
U <sub>o</sub> = 5.88 VDC					≤	U <sub>i</sub> = 6 VDC				
I <sub>o</sub> = 200 mA					≤	I <sub>i</sub> = 350 mA				
P <sub>o</sub> = 1.18 W					≤	P <sub>i</sub> = 1.2 W				
C <sub>O<sub>IC</sub></sub> [μF] =	68.4	652.4	-	-	=> C cable [μF]	54.4	638.4	-	-	C <sub>i</sub> 14 μF
L <sub>O<sub>IC</sub></sub> [μH] =	2	1	-	-	=> L cable [μH]	2	1	-	-	L <sub>i</sub> negligible
C <sub>O<sub>IB</sub></sub> [μF] =	33.4	53.4	102.4	222.4	=> C cable [μF]	19.4	39.4	88.4	208.4	C <sub>i</sub> 14 μF
L <sub>O<sub>IB</sub></sub> [μH] =	100	50	20	10	=> L cable [μH]	100	50	20	10	L <sub>i</sub> negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

b) MT-xx6-A HMI with KBD(i)-\*\*\*-PS2-\*\* keyboard

Source / active					==>	Acceptor / passive				
MT-xx6-A						KBD(i)-***-PS2-**				
Terminal X9						Keyboard connection				
U <sub>o</sub> = 5.88 VDC					≤	U <sub>i</sub> = 6 VDC				
I <sub>o</sub> = 200 mA					≤	I <sub>i</sub> = 350 mA				
P <sub>o</sub> = 1.18 W					≤	P <sub>i</sub> = 1.2 W				
C <sub>O<sub>IC</sub></sub> [μF] =	68.4	652.4	-	-	=> C cable [μF]	43,4	628,4	-	-	C <sub>i</sub> 25 μF
L <sub>O<sub>IC</sub></sub> [μH] =	2	1	-	-	=> L cable [μH]	2	1	-	-	L <sub>i</sub> negligible
C <sub>O<sub>IB</sub></sub> [μF] =	33.4	53.4	102.4	222.4	=> C cable [μF]	8,4	28,4	77,4	197,4	C <sub>i</sub> 25 μF
L <sub>O<sub>IB</sub></sub> [μH] =	100	50	20	10	=> L cable [μH]	100	50	20	10	L <sub>i</sub> negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

a) MT-xx6-A HMI with KBD(i)-\*\*\*-PS2-\*\* keyboard

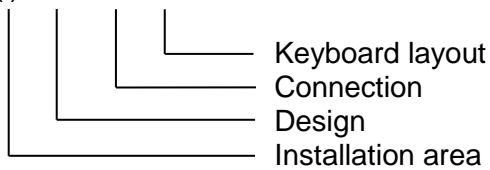
Source / active					==>	Acceptor / passive				
MT-xx6-A						KBD(i)-***-PS2-**				
Terminal X9						Keyboard connection				
U <sub>o</sub> = 5.88 VDC					≤	U <sub>i</sub> = 6 VDC				
I <sub>o</sub> = 200 mA					≤	I <sub>i</sub> = 350 mA				
P <sub>o</sub> = 1.18 W					≤	P <sub>i</sub> = 1.2 W				
C <sub>O<sub>IC</sub></sub> [μF] =	68.4	652.4	-	-	=> C cable [μF]	43,4	628,4	-	-	C <sub>i</sub> 25 μF
L <sub>O<sub>IC</sub></sub> [μH] =	2	1	-	-	=> L cable [μH]	2	1	-	-	L <sub>i</sub> negligible
C <sub>O<sub>IB</sub></sub> [μF] =	33.4	53.4	102.4	222.4	=> C cable [μF]	8,4	28,4	77,4	197,4	C <sub>i</sub> 25 μF
L <sub>O<sub>IB</sub></sub> [μH] =	100	50	20	10	=> L cable [μH]	100	50	20	10	L <sub>i</sub> negligible

C<sub>o</sub> and L<sub>o</sub> pairs directly above/underneath each other may be used.

## 10 Type code

Type code:

KBD(i)-aaa-bbb-cc





Name	Abbreviation	Version	Description
Installation area	(i)	i	Keyboard for installation in zone 1
Design	aaa	TB	Keyboard with trackball
		JS	Keyboard with joystick (no longer available)
		JS2	Keyboard with joystick variant 2
Connection	bbb	PS2	Keyboard with PS2 connection
Keyboard layout	cc	QZ	Keyboard with German layout (QWERTZ)
		QY	Keyboard with American layout (QWERTY)
		AZ	Keyboard with French layout (AZERTY)
		**	other two-character country codes

Product type:

Version	Description
Keyboard KBDi-PS2-QZ	Plain keyboard with no extras, German layout
Keyboard KBDi-PS2-QY	Plain keyboard with no extras, American layout
Keyboard KBDi-PS2-AZ	Plain keyboard with no extras, French layout
Keyboard KBDi-TB50-PS2-QZ	Keyboard with trackball, German layout
Keyboard KBDi-TB50-PS2-QY	Keyboard with trackball, American layout
Keyboard KBDi-TB50-PS2-AZ	Keyboard with trackball, French layout
Keyboard KBDi-JS-PS2-QZ	Keyboard with joystick, German layout (no longer available)
Keyboard KBDi-JS-PS2-QY	Keyboard with joystick, American layout (no longer available)
Keyboard KBDi-JS-PS2-AZ	Keyboard with joystick, French layout (no longer available)
Keyboard KBDi-JS2-PS2-QZ	Keyboard with joystick variant 2, German layout
Keyboard KBDi-JS2-PS2-QY	Keyboard with joystick variant 2, American layout
Keyboard KBDi-JS2-PS2-AZ	Keyboard with joystick variant 2, French layout

## 11 Safety Advice

 NOTICE	This chapter is a summary of the key safety measures. The summary is supplementary to existing rules which staff also have to study.
	The safety of persons and equipment in hazardous areas depends on compliance with all relevant safety regulations. Thus, the installation and maintenance staff carry a particular responsibility, requiring precise knowledge of the applicable regulations and conditions.

 CAUTION	The notes listed below in section 11.1 must be heeded to avoid injury and damage to equipment !
---	---

### 11.1 Installation and operation

Please note the following when installing and operating the device:

- The national regulations for installation and assembly apply (e.g. IEC/EN 60079-14).
- The keyboards variant KBD(i)-PS2-\*\* and KBDi-JS2-PS2-\*\* may be installed in zones 1 and 2 and keyboard type KBD(i)-\*\*\*-PS2-\*\* in zone 1, 2, 21 (for non-conductive dust) and 22.
- If the keyboard is mounted inside a housing made of insulation material, it must be earthed via a terminal at the back of the keyboard.
- The keyboards should be mounted in a position where they will not be exposed to direct UV light for extended periods of time.
- The intrinsically safe circuits must be installed according to applicable regulations.
- The keyboard must only be operated when it is closed.
- The keyboards may be connected to intrinsically safe input circuits.
- The safety values of the keyboard must match those of the device to which it is connected.
- Interconnecting several active devices in an intrinsically safe circuit may result in different safe maximum values. This could compromise intrinsic safety !
- If the front membrane is damaged, the keyboard must no longer be operated !
- National safety and accident prevention rules.
- Generally accepted technical rules.
- Safety instructions contained in these operating instructions.
- Any damage may compromise the explosion protection.


Use the keyboard for its intended purpose only (see "Function").

Incorrect or unauthorized use and non-compliance with the instructions in this manual will void any warranty on our part.

No changes may be made to the keyboard that compromise explosion protection !

The keyboard may only be installed and operated in an undamaged, dry and clean condition !

#### 11.1.1 Warning KBD(i)-JS-PS2-\*\* keyboard version according to CSA

 WARNING	<b>Explosion Hazard !</b> Substitution of any components may impair suitability for Class I, Division 2 !
---	--

## 12 Assembly and disassembly

### 12.1 General information



#### NOTICE

Assembly and disassembly are subject to general technical rules. Additional, specific safety regulations apply to electronic and pneumatic installations.

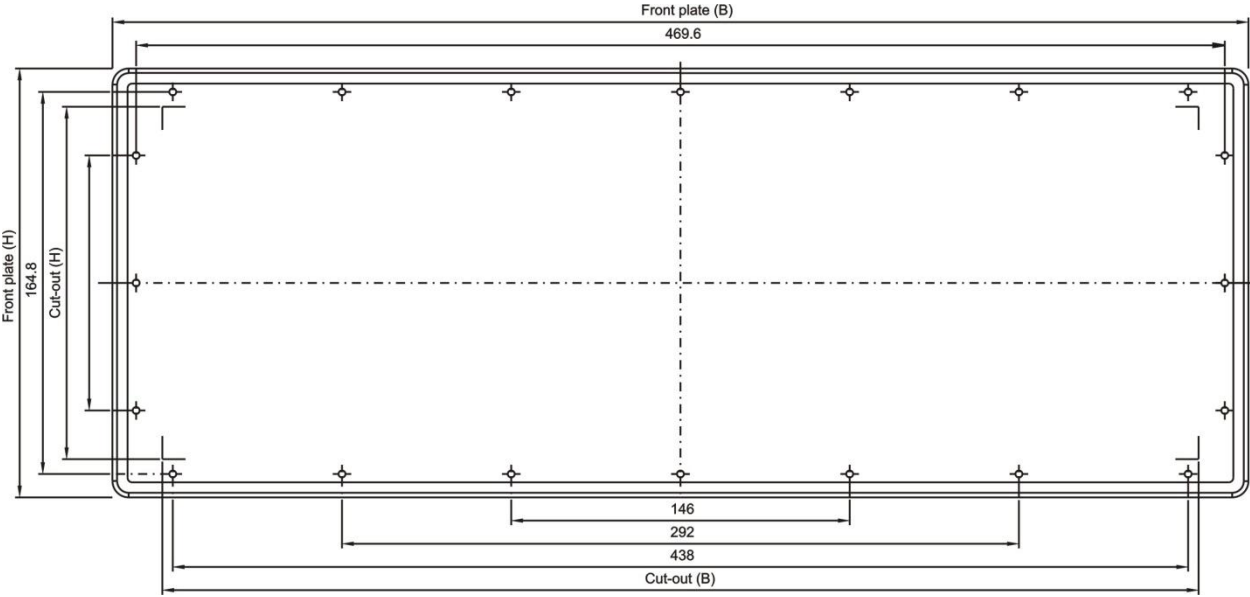
### 12.2 Mechanical dimensions

Dimensions in mm

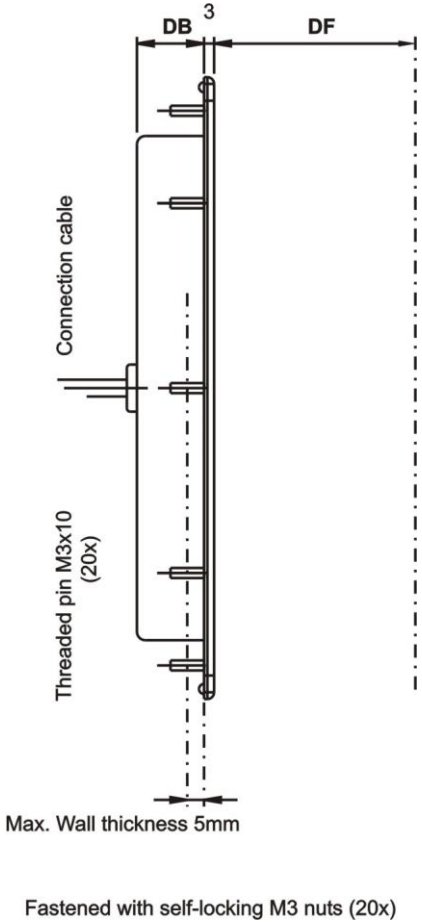
Keyboard version	Front plate (HxB)	Cut-out (HxB)	Hole pattern	Material thickness
KBDi-PS2-**	185 x 490	152 x 447 ( $\pm 0.5$ )	see diagram	up to 5
KBDi-TB50-PS2-**	185 x 490	152 x 447 ( $\pm 0.5$ )	see diagram	up to 5
KBDi-JS-PS2-**	185 x 490	152 x 447 ( $\pm 0.5$ )	see diagram	up to 5
KBDi-JS2-PS2-**	185 x 490	152 x 447 ( $\pm 0.5$ )	see diagram	up to 5

Keyboard version	Design back (DB) (height) (+ cable)	Design front (DF) (height)
KBDi-PS2-**	20 + 15	-
KBDi-TB50-PS2-**	50 + 15	12 (trackball height)
KBDi-JS-PS2-**	50 + 15	60 (joystick height)
KBDi-JS2-PS2-**	50 + 15	60 (joystick height)

12.2.1 Bottom view




12.2.2 Side view




## 13 Operation

### 13.1 General information

 <b>NOTICE</b>	<p>When operating the keyboard, particular care shall be taken that:</p> <ul style="list-style-type: none"> <li>• the keyboard has been properly installed according to instructions,</li> <li>• the keyboard is undamaged,</li> <li>• all screws are tightened fast,</li> <li>• the interface cable is connected properly.</li> </ul>
---	--

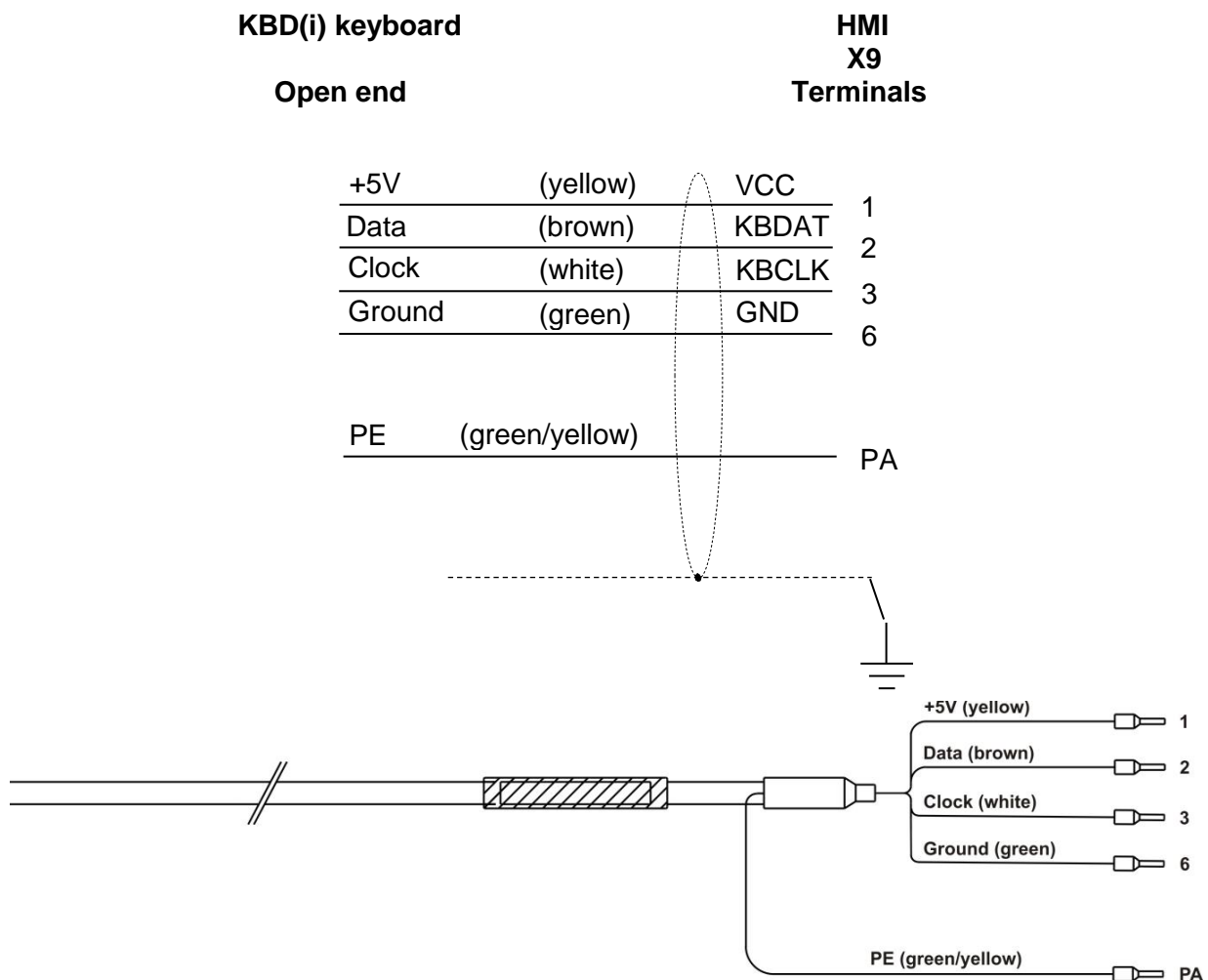
### 13.2 KBD(i) connections


The keyboards are fitted with an interface cable (LIYCY, 0,14 mm<sup>2</sup> / AWG26) with the (max.) length from 1.5 m that can be connected to the X9 terminal of HMIs device platform EAGLE, SERIES 300 Operator Interfaces –, SERIES 400 – Panel PC’s and SERIES 500 Thin Clients.

 <b>ATTENTION</b>	Do <b>NOT</b> connect the external keyboard to live equipment !
--	---

#### 13.2.1 KBD(i)-PS2-\*\* keyboard version

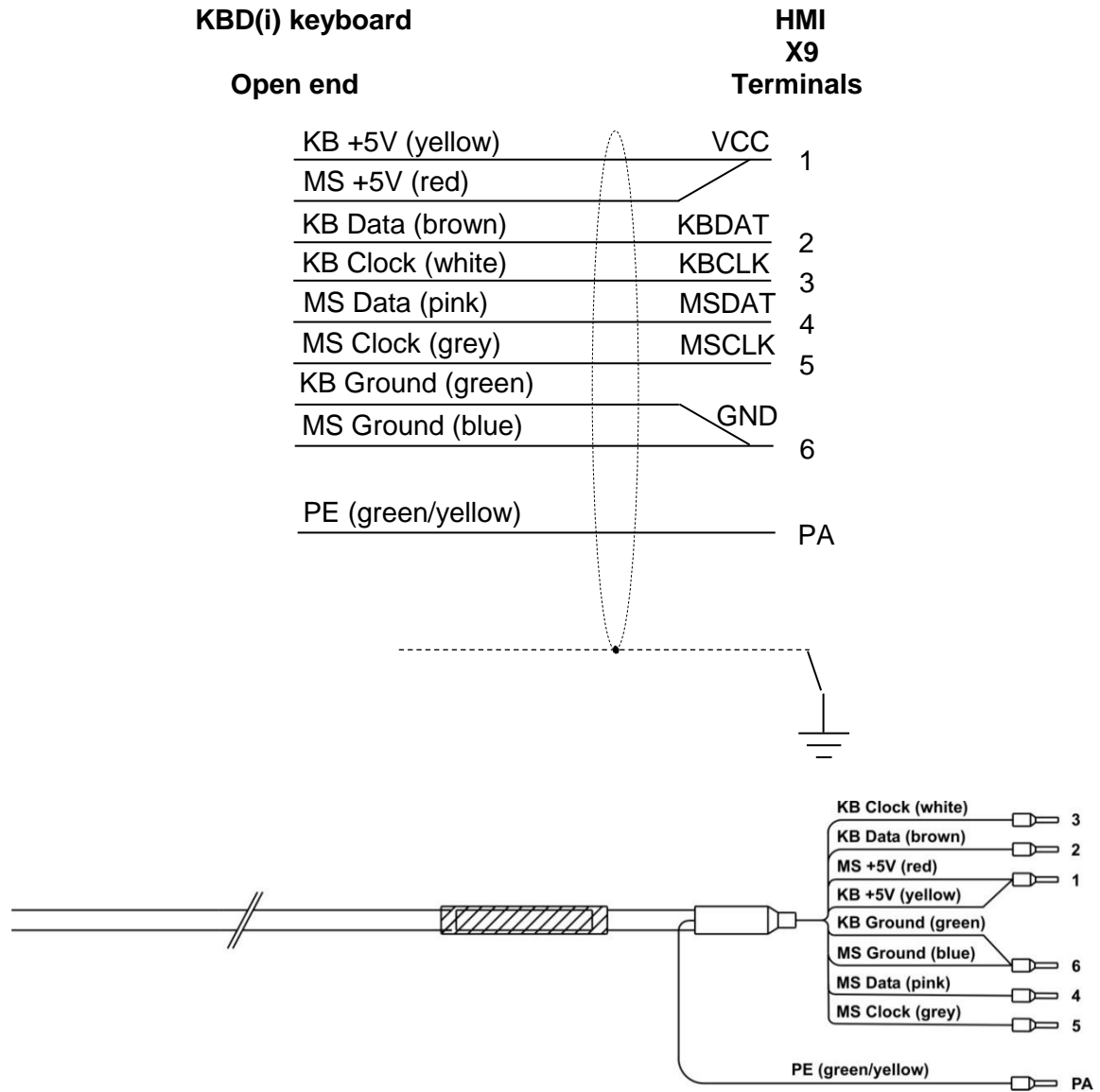
##### 13.2.1.1 Connection cables



 <b>ATTENTION</b>	The shielding connection (PE – green/yellow cable) must be connected to the PA terminal block of the HMIs !
--	---

13.2.2 KBD(i)-\*\*\*-PS2-\*\* and KBDi-JS2-PS2-\*\* keyboard version

13.2.2.1 Connection cables



**! ATTENTION** The shielding connection (PE – green/yellow cable) must be connected to the PA terminal block of the HMIs !

## 14 Maintenance, service

### ! NOTICE

Associated equipment is subject to maintenance, service and testing according to guidelines 1999/92/EC, IEC/EN 60079-14, -17, -19 and BetrSichVer (Betriebssicherheitsverordnung - Occupational Safety and Health) !

The keyboards contain no replaceable parts. It is therefore not necessary to carry out regular adjustments.

Maintenance should focus on the following:

- Seal wear
- Front membrane damage
- All cables and lines are properly connected and undamaged
- Housing damage

### ! CAUTION

If the device in its factory state is damaged or altered in any way, decommission it immediately and contact the manufacturer !

### 14.1 Servicing

It is the responsibility of the operator of an electrical plant in a hazardous environment to have the plant serviced. Please also note the appropriate national rules and regulations.

## 15 Troubleshooting

Users cannot carry out any keyboard repairs.

In addition, the following applies:

### ! NOTICE

Devices operated in hazardous areas must not be modified. Repairs may only be carried out by qualified, authorized staff specially trained for this purpose.

Repairs may only be carried out by specially trained staff who are familiar with all basic conditions of the applicable user regulations and – if requested – have been authorized by the manufacturer.



## 16 Disposal / Restricted substances

Disposal of old electric and electronic devices, packaging and used parts is subject to regulations valid in whichever country the device has been installed.

For countries under the jurisdiction of the EU the corresponding WEEE directive applies.

The devices are classified according to the table below:

Directive	WEEE II directive 2012/19/EU
Valid	from 2018-08-15
Category	SG5 Small equipment <50 cm

R. STAHL HMI Systems GmbH meets the requirements of directive 2012/19/EU (WEEE) and is registered under the number DE 15180083.

We shall take back our devices according to our General Terms and Conditions.

### 16.1 Declaration of substances and restricted substances

The present declaration is based on the procedure described in the international standard and directives as listed in the table below:

- IEC 62474 : 2018 (DIN EN IEC 62474 : 2019-09)
- (EG) Nr. 1907/2006 (REACH)
- Directive 2011/65/EU (RoHS)
- Resolution MEPC.269(68) "International Maritime Organization" (IMO); particularly "2015 Guidelines for the Development of the Inventory of the Hazardous Materials" (IHM)

#### 16.1.1 Declarable substance groups

Component	Name	Mass (g)	Declarable Substance Groups and Substances (IEC 62474 database)	CAS No.	Mass %	Exemption (acc. to directive)
-	-	-	No SVHC material existing	-	-	-

#### 16.1.2 RoHS directive 2011/65/EC

The devices meet the requirements of RoHS Directive 2011/65/EU.

#### 16.1.3 China RoHS labelling

The part of all toxic or hazardous substance contained in the homogeneous materials of the HMI devices is below the limit requirements in SJ/T11363-2006.

#### 16.1.4 IMO Resolution MEPC.269(68)

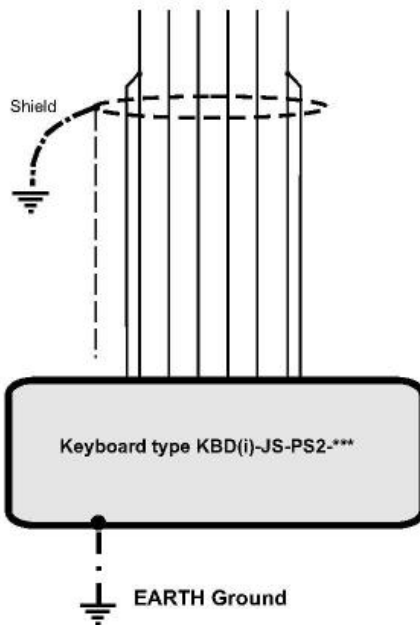
The devices meet the requirements of the MEPC.269(68) Resolution of the "International Maritime Organization" (IMO), in particular the "2015 Guidelines for the Development of the Inventory of the Hazardous Materials" (IHM).

# 17 Control Drawings CSA

## HAZARDOUS LOCATIONS

**Class I, Zone 1, AEx ib IIC T4 Gb**  
**Ex ib IIC T4 Gb**  
**Class I, Division 2, Group A, B, C and D**

Entity parameters		
$V_i$	=	6 VDC
$I_i$	=	350 mA
$P_i$	=	1200 mW
$C_i$	=	25 $\mu$ F
$L_i$	=	0



terminal connector for equipotential bonding on backside of housing

Temperature Code T4



See manual

**Note 1:**  
 The entity parameters listed represent the combination of worst case levels for KBD(i)-JS-PS2 keyboard 6 wire circuit.

**Note 2:**  
 Interconnection with CSA certified intrinsically safe apparatus is allowed when the following is true:

$U_i$	$\geq$	$U_o$
$I_i$	$\geq$	$I_o$
$P_i$	$\geq$	$P_o$
$C_i + C_{cable}$	$\leq$	$C_o$
$L_i + L_{cable}$	$\leq$	$L_o$

Wire color	SIGNAL	
red yellow	VCC	5 V supply
blue green	GND	0 V supply
white	KBCLK	Keyboard clock signal
brown	KBDAT	Keyboard data signal
grey	MSCLK	Trackball/Joystick clock signal
pink	MSDAT	Trackball/Joystick data signal
green-yellow	PA	Shield

			2013	Date	Name	Control drawing	Scale		
			Drawn by	July 26	Be		KBDi-JS-PS2-***	1 : 1	
			Checked	July 26	Be			2013 28 50 0	Sheet
									R. STAHL HMI Systems GmbH Cologne / Germany
						2013 28 50 0			
							KBDi-Control-Drawing_201328500-20130826.cdr		
index	Date	Name						A4	

# 18 Declaration of EC conformity

## 18.1 KBD(i)-PS2-\*\* keyboard version

**EU-Konformitätserklärung**  
*EU Declaration of Conformity*  
*Déclaration de Conformité UE*



**R. STAHL HMI Systems GmbH • Adolf-Grimme-Allee 8 • 50829 Köln, Germany**

erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: **Keyboard**  
*that the product:*  
*que le produit:*

Typ(en), *type(s), type(s):* **KBD(i)-PS2-\*\*\***  
 \*\*\* = In the complete type denomination, the asterisks are replaced by letters or numbers to identify different variations. These variations have no influence on explosion protection.

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.  
*is in conformity with the requirements of the following directives and standards.*  
*est conforme aux exigences des directives et des normes suivantes.*

Richtlinie(n) / Directive(s) / Directive(s)	Norm(en) / Standard(s) / Norme(s)
2014/34/EU ATEX-Richtlinie 2014/34/EU ATEX Directive 2014/34/UE Directive ATEX	EN 60079-0:2012/A11:2013 EN 60079-11:2012 Das Produkt entspricht Anforderungen aus: <i>Product corresponds to requirements from:</i> <i>Produit correspond aux exigences:</i> EN IEC 60079-0:2018

Kennzeichnung, *marking, marquage:*  II 2G Ex ib IIC T4 Gb  
**CE 0158**

EU-Baumusterprüfbescheinigung: **BVS 06 ATEX E 080**  
*EU Type Examination Certificate:* **DEKRA EXAM GmbH (NB 0158)**  
*Attestation d'examen UE de type:* Dinnedahlstrasse 9, 44809 Bochum, Germany

2014/30/EU EMV-Richtlinie 2014/30/EU EMC Directive 2014/30/UE Directive CEM	EN 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011 EN 61326-1:2013
---	---

Produktnormen nach RoHS-Richtlinie (2011/65/EU): **EN IEC 63000:2018**  
*Product standards according to RoHS Directive:*  
*Normes des produit pour la Directive RoHS:*

Für spezifische Merkmale und Bedingungen siehe Betriebsanleitung.  
*For specific characteristics and conditions see operating instructions.*  
*Pour les caractéristiques et conditions spécifiques, voir le mode d'emploi.*

Köln, 2020-12-15

Ort und Datum  
*Place and date*  
*Lieu et date*

i.V.   
**J. Düren**  
 Technical Director

i.V.   
**A. Jung**  
 Ex Representative

## 18.2 KBD(i)-\*\*\*-PS2-\*\* keyboard version

**EU-Konformitätserklärung**  
*EU Declaration of Conformity*  
*Déclaration de Conformité UE*



**R. STAHL HMI Systems GmbH • Adolf-Grimme-Allee 8 • 50829 Köln, Germany**

erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: **Keyboard with Trackball**  
*that the product:*  
*que le produit:*

Typ(en), *type(s)*, *type(s)*: **KBD(i)-TB-PS2-\*\***

\*\*=any character without relevance for explosion protection

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.

*is in conformity with the requirements of the following directives and standards.*

*est conforme aux exigences des directives et des normes suivantes.*

Richtlinie(n) / Directive(s) / Directive(s)		Norm(en) / Standard(s) / Norme(s)	
2014/34/EU	ATEX-Richtlinie	EN 60079-0:2009	Das Produkt entspricht Anforderungen aus: <i>Product corresponds to requirements from:</i> <i>Produit correspond aux exigences:</i> EN 60079-0:2012 EN IEC 60079-0:2018 EN 60079-11:2012
2014/34/EU	ATEX Directive	EN 60079-11:2007	
2014/34/UE	Directive ATEX	EN 61241-11:2006	

Kennzeichnung, *marking*, *marquage*:



**II 2G Ex ib IIC T4 Gb**  
**II 2D Ex ib IIIB T90 °C Db**

**CE 0158**

EU-Baumusterprüfbescheinigung:

*EU Type Examination Certificate:*

*Attestation d'examen UE de type:*

**BVS 07 ATEX E 019**

**DEKRA EXAM GmbH (NB 0158)**

Dinnendahlstraße 9, 44809 Bochum, Germany

2014/30/EU	EMV-Richtlinie	EN 61000-6-2:2005
2014/30/EU	EMC Directive	EN 61000-6-4:2007 + A1:2011
2014/30/UE	Directive CEM	EN 61326-1:2013

Produktnormen nach RoHS-Richtlinie (2011/65/EU): <i>Product standards according to RoHS Directive:</i> <i>Normes des produit pour la Directive RoHS:</i>	EN IEC 63000:2018
--	-------------------

Für spezifische Merkmale und Bedingungen siehe Betriebsanleitung.

*For specific characteristics and conditions see operating instructions.*

*Pour les caractéristiques et conditions spécifiques, voir le mode d'emploi.*

Köln, 2020-12-15

Ort und Datum  
*Place and date*  
*Lieu et date*

i.V.

**J. Düren**  
 Technical Director

i.V.

**A. Jung**  
 Ex Representative



### 18.3 KBD(i)-JS2-PS2-\*\* keyboard version

**EU-Konformitätserklärung**  
*EU Declaration of Conformity*  
*Déclaration de Conformité UE*



**R. STAHL HMI Systems GmbH • Adolf-Grimme-Allee 8 • 50829 Köln, Germany**

erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: **Keyboard with Joystick**  
*that the product:*  
*que le produit:*

Typ(en), *type(s), type(s):* **KBDi-JS2-PS2-xx**  
 xx = The asterisks are replaced by letters to mark different country-specific keyboard-designs. These differences have no relevance for explosion protection.

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.  
*is in conformity with the requirements of the following directives and standards.*  
*est conforme aux exigences des directives et des normes suivantes.*

Richtlinie(n) / Directive(s) / Directive(s)	Norm(en) / Standard(s) / Norme(s)
2014/34/EU ATEX-Richtlinie 2014/34/EU ATEX Directive 2014/34/UE Directive ATEX	EN 60079-0:2012/A11:2013 EN 60079-11:2012 Das Produkt entspricht Anforderungen aus: <i>Product corresponds to requirements from:</i> <i>Produit correspond aux exigences:</i> EN IEC 60079-0:2018

Kennzeichnung, *marking, marquage:*  **II 2G Ex ib IIC T4 Gb**  
**CE 0158**

EU-Baumusterprüfbescheinigung: **BVS 16 ATEX E 122**  
*EU Type Examination Certificate:* **DEKRA EXAM GmbH (NB 0158)**  
*Attestation d'examen UE de type:* **Dinnedahlstrasse 9, 44809 Bochum, Germany**

2014/30/EU EMV-Richtlinie 2014/30/EU EMC Directive 2014/30/UE Directive CEM	EN 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011 EN 61326-1:2013
Produktnormen nach RoHS-Richtlinie (2011/65/EU): <i>Product standards according to RoHS Directive:</i> <i>Normes des produit pour la Directive RoHS:</i>	EN IEC 63000:2018

Für spezifische Merkmale und Bedingungen siehe Betriebsanleitung.  
*For specific characteristics and conditions see operating instructions.*  
*Pour les caractéristiques et conditions spécifiques, voir le mode d'emploi.*

Köln, 2020-12-15

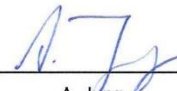
Ort und Datum  
*Place and date*  
*Lieu et date*

i.V.



J. Düren  
 Technical Director

i.V.



A. Jung  
 Ex Representative

## 18.4 RCM

### Supplier's declaration of conformity



As required by the following Notices:

- > *Radiocommunications (Compliance Labelling - Devices) Notice 2014* made under section 182 of the *Radiocommunications Act 1992*;
- > *Radiocommunications Labelling (Electromagnetic Compatibility) Notice 2017* made under section 182 of the *Radiocommunications Act 1992*
- > *Radiocommunications (Compliance Labelling – Electromagnetic Radiation) Notice 2014* made under section 182 of the *Radiocommunications Act 1992* and
- > *Telecommunications (Labelling Notice for Customer Equipment and Customer Cabling) Instrument 2015* made under section 407 of the *Telecommunications Act 1997*.

#### Instructions for completion

- > *Do not return this form to the ACMA.* This completed form must be retained by the supplier as part of the documentation required for the compliance records and must be made available for inspection by the ACMA when requested.

#### Supplier's details (manufacturer, importer or authorised agent)

Company Name (OR INDIVIDUAL)

R. STAHL Australia Pty Ltd
TRADING AS R. STAHL HMI Systems GmbH

ACN/ARBN

ABN 81150955838
-----------------

OR

New Zealand IRDN

--

Street Address (AUSTRALIAN or NEW ZEALAND)

848 Old Princes Highway
Sutherland, NSW
POSTCODE 2232
Phone: +61 2 4254 4777

#### Product details and date of manufacture

Product description – brand name, type, current model, lot, batch or serial number (if available), software/firmware version (if applicable)

<p>Operating and Monitoring Devices</p> <p>EXICOM ET-306-A-***; ET-406-A-***; ET-506-A-***; ET-316-A-***; ET-416-A-***; ET-516-A-***; ET-336-A-***; ET-436-A-***; ET-536-A-***; ET-356-A-***; ET-456-A-***; ET-556-A-***; * = Fx or Tx, ** = HDn and/or SR and/or additional information</p>
<p>Operating and Monitoring Devices</p> <p>EXICOM MT-306-A-***; MT-406-A-***; MT-506-A-***; MT-316-A-***; MT-416-A-***; MT-516-A-***; MT-336-A-***; MT-436-A-***; MT-536-A-***; MT-356-A-***; MT-456-A-***; MT-556-A-***; * = Fx or Tx, ** = HDn and/or SR and/or additional information</p>
<p>Keyboard</p> <p>KBD(i)-PS2-***; *** = In the complete type denomination, the asterisks are replaced by letters or numbers to identify different variations.</p>
<p>Keyboard with Joystick / Trackball</p> <p>KBD(i)-TB-PS2-***; KBD(i)-JS-PS2-***; ** = any character without relevance for explosion protection</p>

Keyboard with Joystick
KBDI-JS2-PS2-xx; xx = The asterisks are replaced by letters to mark different country-specific keyboard-designs.

**Compliance – applicable standards and other supporting documents**

Evidence of compliance with applicable standards may be demonstrated by test reports, endorsed/accredited test reports, certification/competent body statements.

Having had regard to these documents, I am satisfied the above mentioned product complies with the requirements of the relevant ACMA Standards made under the *Radiocommunications Act 1992* and the *Telecommunications Act 1997*.

List the details of the documents the above statement was made, including the standard title, number and, if applicable, number of the test report/endorsed test report or certification/competent body statement

EN 61000-6-4:2011-09; EN 61000-6-4:2007 + A1:2011; EN 55022:1994 + A1:1995 + A2:19997

**Declaration**

I hereby declare that:

1. I am authorised to make this declaration on behalf of the Company mentioned above,
2. the contents of this form are true and correct, and
3. the product mentioned above complies with the applicable above mentioned standards and all products supplied under this declaration will be identical to the product identified above.

**Note:** Under section 137.1 of the *Criminal Code Act 1995*, it is an offence to knowingly provide false or misleading information to a Commonwealth entity.  
Penalty: 12 months imprisonment

	Managing Director
SIGNATURE OF SUPPLIER OR AGENT	POSITION IN ORGANISATION
John Zagame	2018-10-15
PRINT NAME	DATE

The *Privacy Act 1988* (Cth) (the Privacy Act) imposes obligations on the ACMA in relation to the collection, security, quality, access, use and disclosure of personal information. These obligations are detailed in the Australian Privacy Principles.

The ACMA may only collect personal information if it is reasonably necessary for, or directly related to, one or more of the ACMA's functions or activities.

The purpose of collecting the personal information in this form is to ensure the supplier is identified in the 'Declaration of conformity'. If this Declaration of Conformity is not completed and the requested information is not provided, a compliance label cannot be applied.

Further information on the Privacy Act and the ACMA's Privacy Policy is available at [www.acma.gov.au/privacypolicy](http://www.acma.gov.au/privacypolicy). The Privacy Policy contains details about how you may access personal information about you that is held by the ACMA, and seek the correction of such information. It also explains how you may complain about a breach of the Privacy Act and how we will deal with such a complaint.

Should you have any questions in this regard, please contact the ACMA's privacy contact officer on telephone on 1800 226 667 or by email at [privacy@acma.gov.au](mailto:privacy@acma.gov.au).

## 18.5 Release Notes

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

### Version 01.01.16

- Removal of previous release notes
- Changing Disclaimer
- Addition of "textbox caution" in section "Maintenance, overhaul" with information according to "decommission the device"
- Addition of RCM declaration of conformity
- Formal changes

### Version 01.01.17

- Renew / changing EAC certificate number KBDi-PS2-\*
- Formal changes

### Version 01.01.18

- Changing layout cover
- Changing disclaimer, new mail addresses
- Adaption address field verso
- Removal of reference to "Online Manual" in "Preface"
- Adaption of "Conformity to standards"
- Changing section "Certificates" now tabular listing
- Adaption sub section "Certificates"
- Adaption and changing of section "Disposal" and "Material declaration"
- Renew EC declaration of conformity
- Addition of EAC declaration of conformity

### Version 01.01.19

- Correction Phone and Fax number
- Removal of EAC certification
- Removal of EAC Ex classification
- Removal of EAC declaration of conformity
- Changing IECEx link
- Addition of BIS certification for device version KBDi-TB50-PS2-QY
- Addition of "Valid until" column in section "Certifications" tables and tables reorganised
- Addition of values for "Valid until" in section "Certifications" tables
- Addition of "TC" field function in section "Certifications"
- Restriction of NEC® and CE code certification for keyboard version KBD(i)-JS-PS2-\*\*
- Changing the synonyms for USA and Canada in section "Certifications"
- Addition of "no longer available" for keyboard version KBD(i)-JS-PS2-\*\* in section "Certifications"
- Formal changes





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D 50829 Köln

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[r-stahl.com](http://r-stahl.com)



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